Brewongle Solar Farm

315 Tarana Road, Brewongle

Amended Traffic Impact Assessment

February 2026

Ref: 781 rep 260211 final

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Prepared for: Edify Energy Pty Ltd

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Amber

Executive Summary

Amber Organisation Pty Ltd has been engaged by Edify Energy Pty Ltd to prepare a Traffic Impact Assessment of the proposed Brewongle Solar Farm.

The solar farm is proposed to have a capacity of up to 90MW and includes the construction of a substation transformer and a Battery Energy Storage System with a capacity of up to 90MW/180MWh. The Project Area is located on the northern side of Tarana Road in Brewongle, approximately 12 kilometres southeast of Bathurst. Access to the site is proposed via a new access road connecting with Tarana Road to the south of the site.

Traffic generated by the project can be separated into three distinct stages: construction, operation and decommissioning. The peak traffic generating potential is during construction which generates trips associated with the workforce accessing the Project Area and the delivery of raw materials and plant. During operation the project is expected to generate up to 8 vehicles per day associated with 4 maintenance personnel accessing the Project Area. Decommissioning is anticipated to generate a similar level of traffic to the construction stage.

The construction period is expected to commence in 2026 and take approximately 12-18 months, with the peak construction period expected to take 6 months. A workforce of 200 people would be on-site during peak construction periods with the workforce expected to be primarily located in the surrounding region.

It is anticipated that during peak construction the Project could generate up to 40 light and 80 heavy vehicles per day. Construction of the solar farm is expected to generate approximately 41 vehicles per hour in the morning and evening peak hours during the peak construction period, which would reduce to 22 vehicles per hour during the average construction periods.

In order to determine the traffic impact generated during the construction of the Project, an analysis of the operation of the O'Connell Road / Tarana Road intersection was carried out using the SIDRA computer modelling program. The assessment also included review of the cumulative traffic on the road network generated by other major projects in the surrounding area. Overall, the construction traffic is expected to have a minimal impact on the operation of the road network. Accordingly, it is concluded that the road network is able to accommodate the traffic generated by the development during the construction period.

Port Botany has been identified as the port where the solar farm plant will be imported. The access route generally utilises roads that are designated for B-Double vehicles as outlined within the Transport for New South Wales Restricted Access Vehicle Map. It is noted that Tarana Road is unrated for B-Doubles and use of these vehicles would require approval from Bathurst Regional Council.

The preferred access route for high risk oversize/overmass vehicles travelling from Port Botany has been identified within a Route Assessment which identifies some road upgrades are required in order to allow the vehicles to successfully access the Project Area. The Route Assessment is provided within Appendix A of this document.

Amber has undertaken an assessment of the expected access routes for construction traffic to the site which identified that Basic Left Turn and Basic Right Turn treatments should be provided at the O'Connell Road / Tarana Road intersection. The intersection is currently provided with a AUL and AUR turn treatments and adequate sight distance to allow vehicles to safely enter the State Road network. It is proposed to carry out intersection widening at the north-eastern corner to allow for simultaneous B-Double vehicle movements.

The site access on Tarana Road is designed to accommodate the Project traffic and is provided with adequate sight distance to allow vehicles to safely enter the road network, subject to removal of roadside vegetation which is proposed to occur prior to the commencement of the construction phase of the Project.

In order to mitigate the impacts of the Project during construction a Traffic Management Plan would be prepared which outlines a range of traffic management measures in order to ensure the construction traffic would have a minimal impact to the capacity and safety of the surrounding road network. The Traffic Management Plan would be prepared post-approval and prior to the construction of the Project.

Based on the assessment, it is concluded that the road network is able to accommodate the expected vehicle types and traffic volumes during the construction, operation, and decommissioning phases of the Project subject to the proposed road upgrades and traffic management measures. Further, the site access location has been suitably designed to allow vehicles to safely enter and exit the Project Area.

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Definitions

Term	Definition
Project	A solar farm as described within the EIS to which this Application applies.
Project Area	Boundary shown on Figure 1 to which the Application applies (unless otherwise stipulated).
Applicant	Edify Energy Pty Ltd.
Application	Application for Development Consent under Part 4.7 of the EP&A Act; and Determination under Part 9 of the EPBC Act.

1. Background

1.1 Introduction

Amber Organisation Pty Ltd has been engaged by Edify Energy Pty Ltd to prepare a Traffic Impact Assessment of the proposed Brewongle Solar Farm.

The Project includes the construction, operation and decommissioning of a solar farm and associated infrastructure with a targeted electricity generation capacity of 90MW and includes the construction of a substation transformer and a Battery Energy Storage System (BESS) with a capacity of up to 90MW/180MWh.

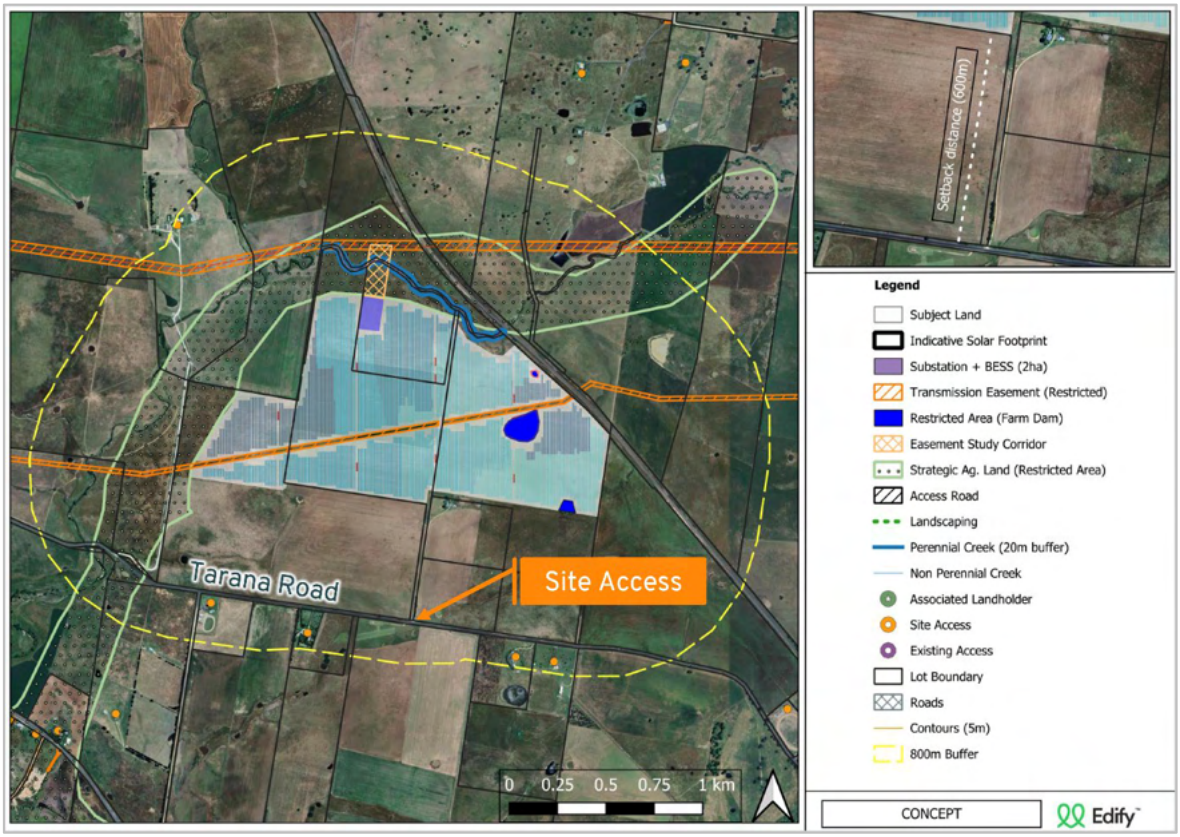
The site is located on the northern side of Tarana Road, approximately 12 kilometres southeast of Bathurst. Figure 1 shows the proposed layout of the site in relation to the road network, access locations and existing infrastructure. Access to the site is proposed via a new access road connecting with Tarana Road to the south of the site.

Construction is expected to commence in 2026 and take approximately 12-18 months, with the peak construction period expected to take 6 months. A workforce of 200 people would be on-site during peak construction periods with the workforce expected to be primarily located in the surrounding region.

All plant is expected to be delivered from Port Botany. Materials and equipment will generally be sourced from within Bathurst or the surrounding area where practicable.

The impacts and proposed mitigation for traffic generated by the proposed construction, operation and decommissioning phases of the Project are addressed in this report in accordance with relevant regulatory requirements and guidelines.

Figure 1. Site Layout



Source: Edify Energy Pty Ltd

1.2 Environmental Assessment Requirements

This report supports a State Significant Development (SSD) Development Consent application under Part 4, Division 4.7 of the Environmental Planning and Assessment Act 1979 (SSD-64834490), as an appendix to the Environmental Impact Statement (EIS) for the Project. NSW Department of Planning, Housing and Infrastructure have issued Secretary's Environmental Assessment Requirements (SEARs) for the project, with the traffic and transport matters listed within Table 1 along with the relevant response to each matter.

Table 1: Traffic and Transport SEARs and Responses

SEARs	Response
An assessment of the peak and average traffic generation, including over-dimensional vehicles and construction worker transportation.	The assessment presented within Section 4 indicates the road network is expected to continue to operate with acceptable conditions during peak and average construction periods. The highest level of traffic is expected to be generated during the peak construction period when staff arrive and depart the site at the start and end of the day. A traffic modelling exercise at the intersection of O'Connell Road and Tarana Road indicates the road network is able to accommodate the Project traffic and is expected to continue to operate with a good level of service. During the middle of the day the traffic movements are expected to be predominantly associated with heavy vehicles with approximately 5-6 vehicles per hour. This increase in traffic can be readily accommodated on the road network given the existing low traffic volumes and the road network would operate with less vehicles than during the peak hour. It is anticipated that 3 oversize/overmass vehicles would access the site during construction. The vehicles would travel outside of the peak periods and would be able to be accommodated on the road network with minimal impacts subject to the proposed road upgrades identified within Section 6 and the adoption of suitable road management strategies which would be confirmed as part of specific permits that would be applied for prior to construction.
An assessment of the likely transport impacts to the site access route(s) including for over-dimension vehicles, site access point(s), any Crown land, particularly in relation to the capacity and condition of the roads, road safety and intersection performance.	The Applicant has advised that the Port Botany is to be utilised as the origin point for high risk OSOM vehicles including the transformer transport vehicle. In order to determine whether any civil works are required to accommodate the high risk OSOM vehicle on the road network a route assessment has been undertaken and is provided in Appendix A. The assessment identified that the vehicle is able to access the site with minor civil works, signage relocation and suitable traffic management measures. Further information on high risk OSOM vehicles is provided in Section 6. The site access arrangements are assessed within Section 8. The access has been designed for heavy vehicle movement and provides suitable sight distance in accordance with the Austroads Guide, subject to removal of roadside vegetation which is proposed to occur prior to the commencement of the construction phase of the Project. The haulage route for heavy vehicles arriving from Port Botany is assessed within Section 5. The access route for B-Doubles generally utilises roads that are designated for B-Double vehicles as outlined within the TfNSW Restricted Access Vehicle Map. It is noted that Tarana Road is unrated for B-Double vehicles and requires approval from Bathurst Regional Council for these vehicles to utilise the road. Advice from Bathurst Regional Council indicates that the bridge over Salt Water Creek does not currently meet the structural requirements for B-Doubles or high risk OSOM vehicles. A replacement for the bridge has been designed which would allow access for these vehicles, and the Applicant will continue to liaise with Council to confirm the timing of the bridge reconstruction works which should occur prior to the commencement of the construction phase of the Project. The current design plans for the bridge replacement have been provided by Bathurst Regional Council and are included in Appendix E. A review of the existing road safety data and casualty crash history is provided within Section 2.6 which indicates that the road network is operating in a relatively safe manner.

SEARs	Response
A cumulative impact assessment of traffic from nearby developments.	The assessment presented within Section 4.2.4 provides a review of the cumulative impacts of the Project along with other major Projects within the surrounding area. The assessment identifies some projects are expected to generate additional vehicle movements within the city of Bathurst. These vehicle movements would be distributed on the surrounding road network and are expected to have a minimal cumulative impact on the operation of the local road network. The review indicates that none of the assessed projects are expected to utilise O'Connell Road or Tarana Road as part of their designated routes for construction traffic. Accordingly, any cumulative traffic impacts with surrounding projects are expected to be minimal.
Provide details of measures to mitigate and / or manage potential impacts including a schedule of all required road upgrades (including resulting from heavy vehicle and over mass / over dimensional traffic haulage routes), road maintenance contributions, and any other traffic control measures, developed in consultation with the relevant road authority.	A TMP is to be developed prior to construction of the Project which should include the recommendations provided within this document. The adoption of the mitigation measures outlined within the TMP would ensure construction traffic has a minimal impact on the capacity and safety of the surrounding road network. In addition to the traffic management measures, it is proposed to provide road upgrades as part of the Project which are to be constructed prior to construction commencing. A schedule of the road upgrades is provided in Section 10.1.

This Traffic Impact Assessment has also been prepared in response to the Agency Advice provided by Transport for New South Wales (TfNSW). Responses to each of the comments provided within the Agency Advice are outlined within Appendix B.

1.3 Road/Rail Authority Consultation

This Traffic Impact Assessment has been undertaken in consultation with TfNSW, Bathurst Regional Council and UGL Regional Linx with a summary provided in Table 2.

Table 2: Road Authority Consultation

Road Authority	Method	Correspondence
Transport for NSW	Email	• Advised to utilise growth rate of 1.5% per annum for traffic forecasts.
Bathurst Regional Council	Phone & Email	• Advised that the Tarana Road bridge over Salt Water Creek does not meet current design requirements. The bridge has a replacement designed (Appendix E) however requires funding for replacement. • Recommended to consider use of Wests Lane as an alternative if the Tarana Road bridge replacement is not completed in time.
UGL Regional Linx	Phone & Email	• Advised that loads greater than 26m require assessment for rail crossings on the UGL Regional Linx network and loads greater than 40m require a Rail Protection Officer to be present. • Advised that a Protection Officer would likely be required as a standard for Class 1 OSOM loads.

Road Authority	Method	Correspondence
Transport for NSW – Special Permits Unit	Email correspondence September 2025.	A submission was made for a preliminary bridge and culvert assessment. The SPU team advised that a bridge and culvert assessment would not be required as the potential routes are on the TfNSW internal HLP (High Load Platform) map.

1.4 Purpose of Document

This Traffic Impact Assessment has been prepared to assess the construction, operational and decommissioning traffic impacts, and the access arrangements of the Project. The assessment responds to the SEARs and details how road impacts of the project traffic, particularly from heavy vehicle use and oversize and overmass vehicles, would be avoided or managed using road-use management strategies.

More specifically, the report addresses the following key matters:

- Details of both light and heavy vehicle traffic volumes and proposed transport routes;
- An assessment of the potential traffic impacts of the Project on road network function and safety;
- An assessment of the capacity of the existing road network to accommodate the type and volume of traffic generated by the Project;
- Details of measures to mitigate and/or manage potential impacts, including construction traffic control, road dilapidation surveys and measures to control dust generated by traffic volumes; and
- Details of access roads and how these connect to the existing road network and ongoing operational maintenance.

The traffic assessment has been undertaken in accordance with the *RTA Guide to Traffic Generating Developments* and relevant Austroads Guidelines.

1.5 Response to Submissions

The Brewongle Solar Farm Environmental Impact Statement (EIS) was submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI) and publicly exhibited between Friday 23 May and Friday 20 June 2025. Following the public exhibition of the EIS, submissions relating to the Project were received from government agencies, local councils, organisations and members of the public. This Amended Traffic Impact Assessment has been updated to respond to matters raised in the submissions and agency advice. In particular, this amended report responds to the submissions received from Bathurst Regional Council and TfNSW, with a summary of the key changes included in Table 3.

Table 3: TIA Report Updates – Response to Submissions

Submission	Response
Bathurst Regional Council submission dated 17 June 2025	
Cumulative Impacts The developments considered in Section 4.2.4 Cumulative Traffic Impacts should be reviewed. It includes a number of distant developments e.g. Tallawang and Stubbo Solar Farms and has not consider other SSD Wind Projects e.g. Sunny Corner Wind Farm and those to the south in Oberon LGA. Many of these rely upon the same access routes as this proposal.	The assessment of cumulative traffic impacts provided in Section 4.2.4 has been updated and expanded to include Sunny Corner Wind Farm and several other projects.
Proposed Roundabout at the intersection of Littlebourne and Hampden Park Council has been in discussions with TfNSW in relation to the upgrading the intersection of Littlebourne Street and Hampden Park Road to accommodate a new roundabout. A preliminary design has been completed and is awaiting the outcome of property acquisition and TfNSW approval. The current OSOM assessments has not considered this proposed roundabout.	It is understood that the design details and delivery timeframes for the potential intersection upgrade are yet to be confirmed, and so detailed assessment is not able to be completed at this time. Other projects including Paling Yards Wind Farm also propose to utilise Littlebourne Street and would require OSOM access through this intersection for larger vehicle combinations. Accordingly, it is suggested that the roundabout design should consider potential access for wind turbine blades and towers which would exceed the geometric requirements / swept path envelopes of the proposed OSOM vehicles associated with Brewongle Solar Farm.
Tarana Road and Salt Water Creek As noted in the EIS the existing bridge over Salt Water Creek does not meet the structural requirements for B-Doubles or OSOM vehicles required during the construction phase. Whilst Council is currently progressing the design of the bridge upgrade, construction is contingent upon acquisition of land to accommodate the bridge approaches and identification of a funding source. Whilst Council has commenced the acquisition process it has been impacted by issues surrounding the Crown land. Similarly, a funding source has yet to be identified. The most likely source will be grant funding. There is no clear timetable for resolution of those issues. Accordingly, for present purposes the use of Tarana Road for B-Double and OSOM traffic cannot be supported until such time as the bridge over Salt Water Creek is upgraded.	The Applicant acknowledges that the Salt Water Creek bridge upgrade proposed by Council will be required to occur prior to the commencement of the construction phase for Brewongle Solar Farm, which can be included within the Development Consent conditions.

Submission	Response
Need to identify alternate routes to Tarana Road/Salt Water Creek On the basis that the bridge over Salt Water Creek is not upgraded prior to commencement of construction alternative routes need to be identified. Council does not consider access to the site from the east to be acceptable. To the extent that alternate routes such as Wests Lane have been canvassed with Council in preliminary discussions that does not form part of the proposal under consideration. Council would consider that Brewongle Lane is not suitable for use for construction traffic. Management controls should be implemented to discourage its use particularly for light vehicles to and from the east.	The Applicant acknowledges that the Salt Water Creek bridge upgrade proposed by Council will be required to occur prior to the commencement of the construction phase for Brewongle Solar Farm, which can be included within the Development Consent conditions. No vehicles are expected to access the site from the east as outlined in Section 4.2.3.
Applicability of Section 7.11 Contribution Plans BRC has 2 adopted Section 7.11 Contributions Plans that are of relevance to the project. Bathurst Regional Traffic Generating Development Section 7.11 Contributions Plan applies to the RU1 Primary Production Zone. For the purposes of the Plan traffic generating developments are those that generate additional traffic movements above levels of traditional agricultural or residential activities. Council considers that the Section 7.11 Plan should be applied to the proposal given the amount and type of traffic generation during the construction phase with a contribution based on the expected weights and volume of heavy vehicles. Bathurst Regional Rural Roadworks Section 7.11 Contributions Plan applies to the RU1 Primary Production Zone. Whilst the Plan would not apply to this particular development type it is worth noting that the Plan identifies both Brewongle Lane and Wests Lane as requiring upgrading works.	Road upgrades are proposed as outlined in Section 10.1 to accommodate the project traffic. No vehicles are expected to access the site via Brewongle Lane or Wests Lane as outlined in Section 4.2.3. Any additional developer contributions are outside the scope of this report.
TMP Council would support the foreshadowed pre-condition survey of its roads prior to commencement. The obligation to repair any damage should be explicit.	Noted. A pre-condition survey has been recommended for inclusion within the TMP as outlined in Section 10 with any faults attributed to construction of the solar farm to be rectified by the project.
Property entry Entry into site limited to "*temporary hardstand on the southern side of Tarana Road to accommodate OSOM vehicles*". Council would suggest that treatment should include sealed shoulders.	Tarana Road currently provides a sealed width of 7.0m which is suitable to accommodate the light and heavy vehicle traffic generated by the site in accordance with the Austroads Guide as outlined in Section 5.3. The site access is provided in Appendix G and has been suitably designed to accommodate the Project traffic which is expected to enter and exit the site. The localised area of temporary hardstand proposed on the southern side of the road is intended to accommodate a very low number of OSOM movements only and would not be utilised by regular traffic.

Submission	Response
TfNSW submission dated 15 July 2025	
1. Oversize overmass (OSOM) comments *a. Oversize overmass (OSOM) laden dimensions* OSOM dimensions are to be provided and routes assessed with laden loads, not separated into truck and load specifications. The high-risk OSOM laden loads, class and vehicle configuration must include the following information regarding the dimensions, weight and length: • NHVR route ID, • Overall dimensions (width, height and length) of the laden load (laden load is the vehicle combination and the load to be transported), • Total weight of laden load, • GSM, • Payload, • deck height, • axle configuration, • axle spacing, including from the prime mover, and • axle masses (including split axle and group axle masses).	The precise transformer model is not yet known however estimated transport specifications are provided below: • NHVR route ID: 2NDE3-2 v1. • Overall dimensions: 4.2m (W) x 4.5m (H) x 56.7m (L). • Total laden vehicle weight: Up to 273T. • Payload: Up to 150T. • Deck height: 1.0m (note load is suspended between trailers with approx. ground clearance of 0.3m). • Axle configuration: 10x8 Platform Trailer Beamset. • Axle spacings: - Prime mover: 3.0m, 1.37m. - Trailer #1: 6.0m to first axle, then 1.8m each. - Trailer #2: 8.0m to first axle, then 1.8m each. • Axle masses (including split axle and group axle masses): - Prime mover: 9T, 12T, 12T. - Trailer #1: 12T per axle. - Trailer #2: 12T per axle. A request for structural assessment of the bridges and culverts along the State Road network has been lodged with TfNSW. Advice received from TfNSW indicates the proposed combination will not require a TfNSW Bridge assessment as it is approved under the HLP map (Appendix J).
b. Oversize overmass (OSOM) laden dimensions The location of pull-over bays / rest areas along high risk OSOM routes (including GPS coordinates) and swept paths demonstrating that high risk OSOMs can be physically accommodated for the project (in terms of size, width and accessibility) are to be included in the revised TIA.	Rest areas are outlined within Section 6.4 with swept path assessment included in Appendix A. The laden vehicle has a width of 4.2m which can generally operate within a single traffic lane with minimal encroachment on either side, noting a width of up to 5.0m is permitted for Class 1 vehicles operating on the approved network. Accordingly, additional formal pull-over bays to facilitate passing manoeuvres are not required.

Submission	Response
2. OSOM route pinch points Several pinch points which require further assessment have been identified along the proposed high-risk OSOM routes. Note that this list is not exhaustive and it is the Proponent's responsibility to provide a comprehensive high-risk OSOM route assessment. The revised TIA is to provide strategic concept designs that identify the scope of roadworks, pavement strengthening, or modifications to the state road infrastructure (e.g., roundabouts, medians, traffic islands, pedestrian refuges) for locations where high-risk OSOM swept paths indicate high-risk OSOM traversing the state road infrastructure. Further information on strategic concept design requirements can be found in the advisory notes. Note: Examples of road upgrades and modifications to this type of infrastructure include pavement strengthening (asphalt), removal or partial removal of the infrastructure, and removal and replacement with a suitable alternative that complies with Austroads and TfNSW requirements.	The OSOM Route Assessment provided in Appendix A has been updated as outlined below, including strategic concept designs for upgrades on the state road network.
a. Botany Road & Bunnerong Road intersection, Matraville • Strategic designs are to be provided for temporary hardstand and mountable kerb. • Where the OSOM will return to the correct side of the road is to be modelled in the revised TIA. • Clearance between load path and traffic control signal provides no allowance for driver error. A 1.0m clearance from traffic control signals and displays is recommended.	• Strategic designs are included in Appendix A. The existing islands are proposed to be cut back and replaced with linemarking / painted islands as marked. • The swept path assessment has been updated to show the vehicle returning to the correct side of the road. • It is noted that the magenta load envelope does not plot correctly on the inside of the turn which is an issue with the swept path software. Minimum clearance of approximately 0.9m is maintained to the pedestrian push button post as marked. Spotters would ensure the vehicle and load are clear of infrastructure.
b. Roundabout at Marsden Street & Pudman Street, Boorowa • Strategic concept designs are to be provided to include the scope of work for the removal or modification of the roundabout. • Swept path indicates the islands on Marsden Street may be crossed. Evidence/assessment of trafficability is to be provided within the revised TIA, or strategic designs for the removal or modification of traffic islands and medians are to be provided and must comply with ASI742.2.	• Strategic designs are included in Appendix A. The existing north and south approach splitter islands and roundabout are proposed to be removed and permanently replaced with linemarking / painted islands as marked.
c. Lachlan Valley Way & Mid Western Highway, Cowra • Swept path indicates the islands on Lachlan Valley Way will be crossed. Evidence/assessment of trafficability is to be provided within the revised TIA, or strategic designs for the removal or modification of traffic islands and medians are to be provided and must comply with ASI 742.2.	• Strategic designs are included in Appendix A. The traffic island is proposed to be removed and permanently replaced with linemarking / painted island as marked.

Submission	Response
d. Roundabout at Great Western Highway and Mitchell Highway, Bathurst • Clarification on whether a portion of the roundabout will be removed or if it is proposed to mount existing annulus(s). If mounting is required, assessment of the existing suitability or upgrades required to the roundabouts for the movements must be included. • Swept paths and road design plans are needed to confirm the impacts on the roundabout. • Strategic designs are to be provided for temporary hardstands and mountable kerbs.	• Strategic designs are included in Appendix A section of the roundabout island is proposed to be removed and permanently replaced with linemarking / painted island as marked.
e. Durham Street & Stewart Street, Bathurst • Clearance between load path and traffic control signal provides no allowance for driver error. A 1.0m clearance from traffic control signals and displays is recommended.	• It is noted that the magenta load envelope does not plot correctly on the inside of the turn which is an issue with the swept path software. Minimum clearance of approximately 0.8m is maintained to the traffic signals as marked in Appendix A. Spotters would ensure the vehicle and load are clear of infrastructure.
f. Roundabout at Great Western Highway & Littlebourne Street • The swept path provided shows the vehicle chassis traversing outside of the paved road area, and over the median island (see figure 1). Strategic concept designs are to be updated and provided with road and/or shoulder widening pavement designs.	• Updated swept path assessment is provided in Appendix A which indicates the vehicle is able to manoeuvre at the intersection without encroaching outside of the paved road area.
g. Mid Western Highway, Lyndhurst • Sections of the Mid Western Highway south of Lyndhurst may be narrow. The timing of high-risk OSOM movements may require further consideration and modelling to understand the optimal timing of the high-risk OSOM movements on the state road network and impact of the high-risk OSOM movements through this segment of the corridor as the narrow widths of the travel lanes, minimal shoulders, overtaking opportunities, steel barriers and limited rest area locations will impact on the oncoming and following traffic on this section of the network.	The laden vehicle has a width of 4.2m which can generally operate within a single traffic lane with minimal encroachment on either side, noting a width of up to 5.0m is permitted for Class 1 vehicles operating on the approved network. Accordingly, additional formal pull-over bays to facilitate passing manoeuvres are not required. Vehicles travelling in the same direction behind the OSOM loads would be allowed to pass at regular intervals which would be facilitated safely by the NSW police escort vehicles. The rear pilot will inform all other pilot/escort vehicles regarding the presence of following vehicles and assist with identifying suitable opportunities for safe passing manoeuvres. Following vehicles would also be able to pass at any of the designated rest areas along the route. Additional protocol regarding the passing manoeuvres would be set out within the TMP.

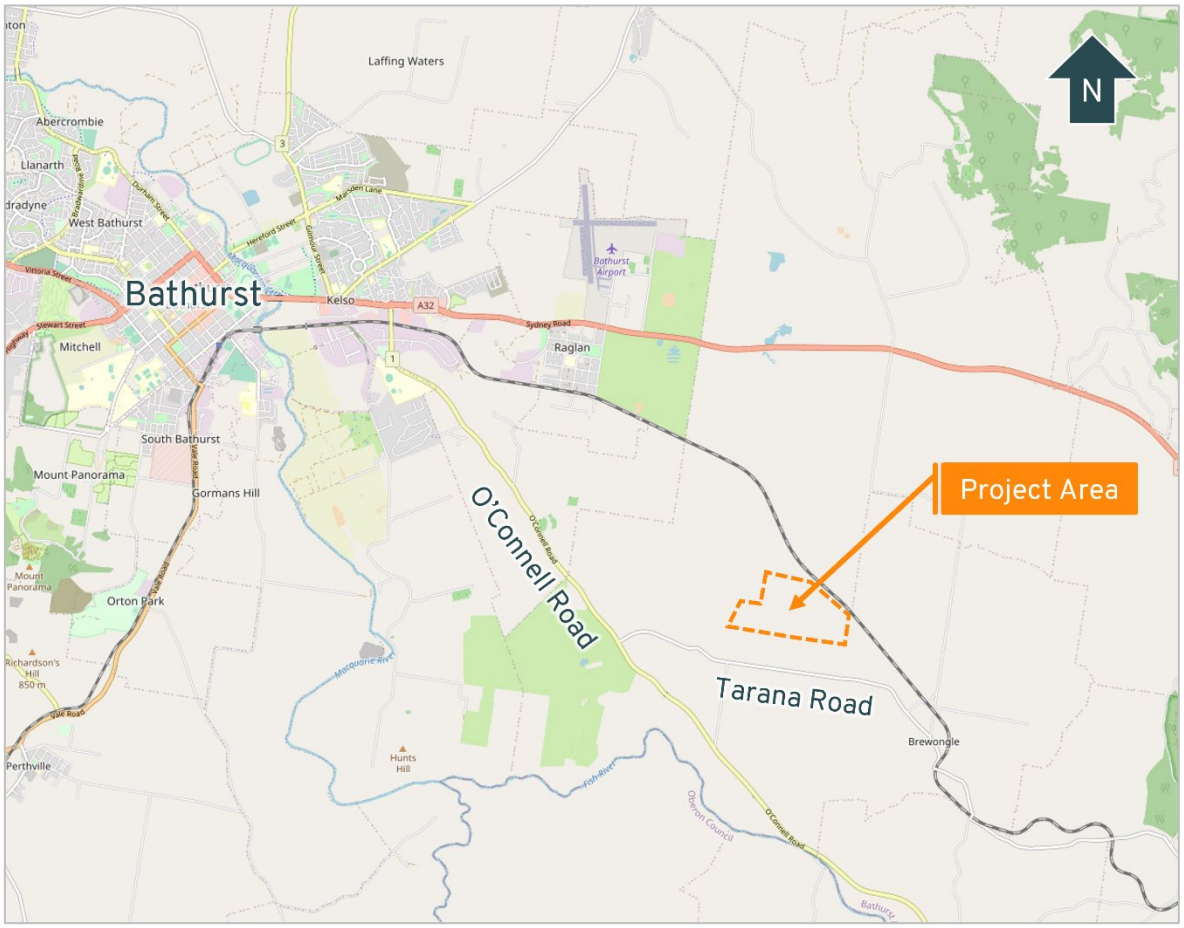
Submission	Response
3. O'Connell Road & Tarana Road intersection a. Strategic designs are to be provided for the proposed intersection widening. Pavements are to be designed to withstand frequent heavy vehicle loads per Austroads Guide to Pavement Technology Part 2: Pavement Structural Design and Austroads Guide to Road Design Part 3: Road Geometry. The hardstands and pavement are to be sealed to the standards of the adjacent road. See advisory notes for further information. b. Measurements to verify the SISD in diagrams/photographs are to be provided for the O'Connell Road / Tarana Road intersection. c. Provide mitigation measures to prevent right turn movements at the O'Connell Road & Tarana Road intersection, in order to not trigger the requirement for a BAR treatment upgrade. d. The OSOM vehicle swept paths performed should be reassessed to confirm that the swept path movement can be reliable achieved with clearance from the edge of the pavement seal edge.	a. Strategic design for the proposed interseciton widening is provided in Appendix F. The pavement is proposed to be sealed/constructed to the standard of O'Connell Road and in accordance with the relevant Austroads Guides. b. Sight distance diagram for the intersection is provided in Appendix F. c. All project traffic is expected to travel to/from the north of the site only with construction personnel, materials and equipment turning left into Tarana Road from O'Connell Road. Materials would be sourced locally from Bathurst where possible, which is located north of the site. The approved travel routes can be included within the conditions of consent and the TMP for the Project. All suppliers would be notified of the approved travel routes where required. Notwithstanding the above, the intersection is currently provided with an Auxiliary Right Turn (AUR) treatment. d. The swept paths provided within Appendix A indicate that the OSOM vehicle can turn at the intersection while maintaining suitable clearance from the edge of pavement at all times.
4. Confirm whether pre-construction minor works and workforce accommodation camps are required or not.	The Applicant has advised that no workforce accommodation camps are proposed, and no minor pre-construction works are planned.

2. Existing Conditions

2.1 Site Location

The site is located at 315 Tarana Road in Brewongle, approximately 12 kilometres southeast of Bathurst and within the Central-West Orana Renewable Energy Zone of New South Wales. Figure 2 shows the location of the site in relation to the surrounding transport network.

Figure 2: Site Location



Source: Edify Energy Pty Ltd

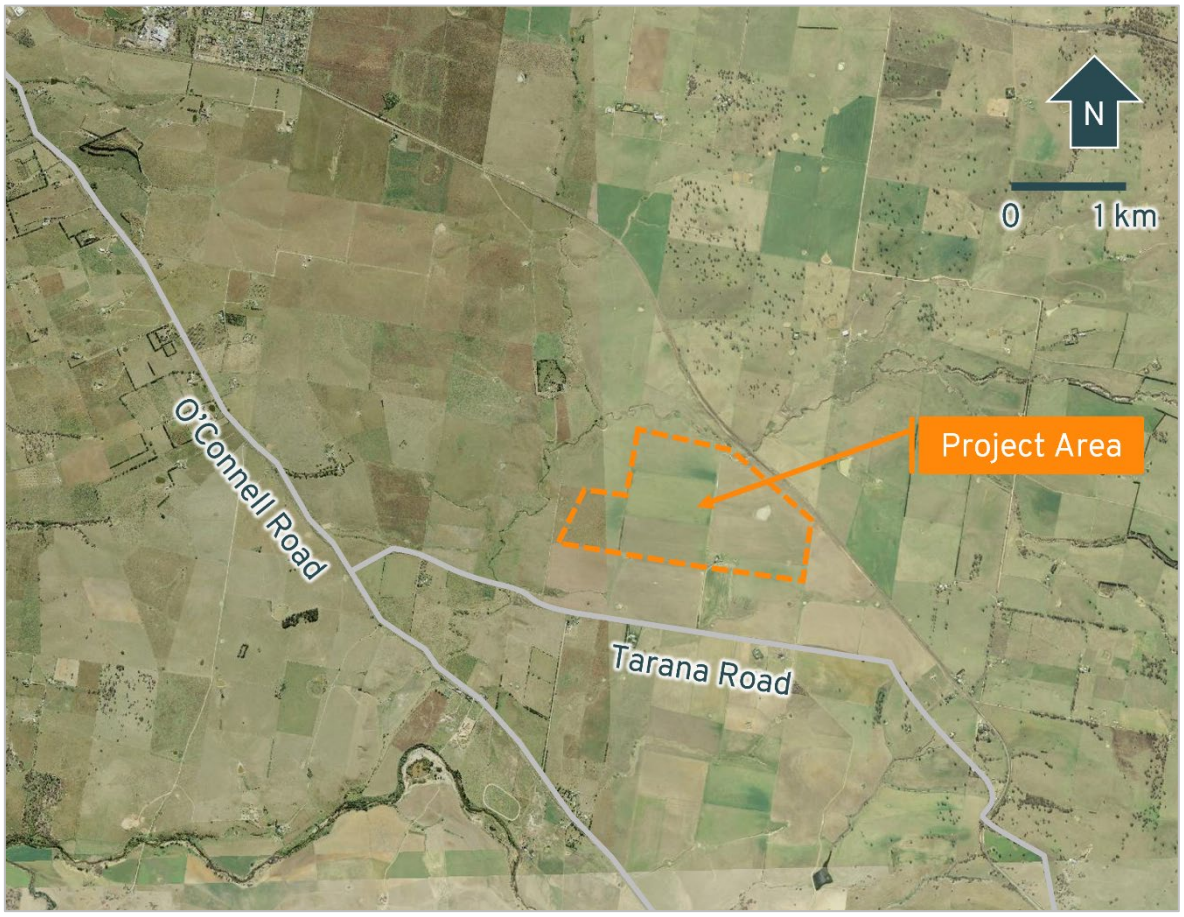
The figure shows the site is well connected with the surrounding State Road network with O'Connell Road running in a north-west to south-east alignment to the west of the site which provides access to the city of Bathurst.

The site and surrounding area are zoned RU1 - Primary Production and are primarily occupied by agricultural or vegetated land. Land along the north-eastern boundary of the site is zoned SP2-Railway associated with the Main Western Railway track.

The site has an area of approximately 299 hectares, is currently used for agricultural purposes, and has access to the road network via an access road connecting with Tarana Road.

Figure 3 provides an aerial photograph of the site and the surrounding area.

Figure 3: Aerial Photograph of Site and Surrounding Area



Source: SixMaps

2.2 Road Network

Tarana Road is a municipal local road that runs in a general east-west alignment between O'Connell Road in Brewongle and Mutton Falls Road in Tarana. It has a typical carriageway width of 7.0 metres which accommodates one lane of traffic in each direction. A speed limit of 100km/hr applies along the road.

O'Connell Road is a State Road that runs in a general northwest-southeast alignment between Rupert Street in Oberon and its continuation as Littlebourne Street in Kelso. It has a typical carriageway width of 7.0 metres accommodating one lane of traffic in each direction and a speed limit of 100 km/hr.

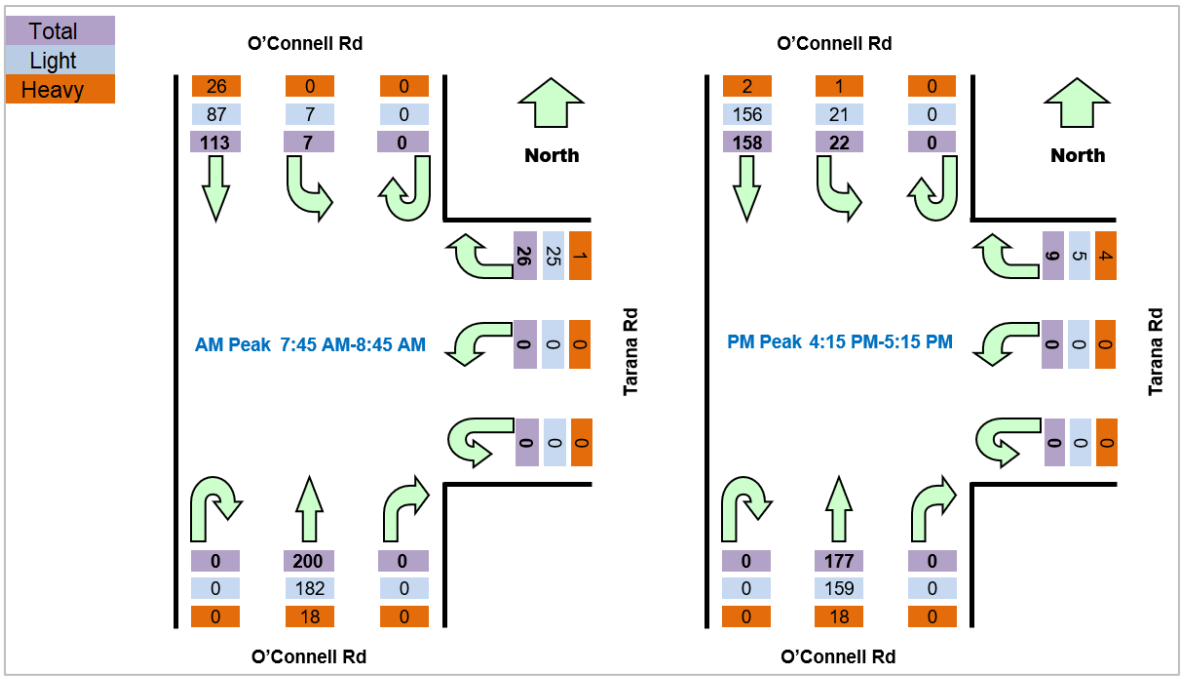
The intersection of Tarana Road and O'Connell Road is priority controlled with Give Way linemarking provided for vehicles exiting Tarana Road. Auxiliary turn treatments are provided for both approaches on O'Connell Road.

2.3 Traffic Volumes

2.3.1 Intersection Volumes

Amber commissioned a turning movement count survey at the O'Connell Road / Tarana Road intersection to determine the existing traffic conditions. The survey was undertaken on Tuesday 7 March 2024 from 6:00am-9:00am and 4:30pm-7:00pm. A summary of the results is presented in Figure 4 with the full survey data provided within Appendix C.

Figure 4: Turning Movement Count Peak Hour Survey Results – O'Connell Road / Tarana Road



The survey results indicate the intersection currently carries a moderate level of traffic in the order of 346 vehicles in the morning peak hour and 366 vehicles in the evening peak hour. The morning peak hour was recorded from 7:45am to 8:45am and the evening peak hour was recorded from 4:15pm to 5:15pm.

The majority of vehicle trips during the morning and evening peak periods are through traffic movements along O'Connell Road with the majority of movements towards Bathurst in the morning. All turning movements out of Tarana Road are right turns towards Bathurst with a higher number of movements recorded during the morning peak hour than the afternoon. There were no recorded movements from the south approach of O'Connell Road turning right into Tarana Road during either of the peak hour periods.

Overall, the results indicate both roads accommodate a low to moderate level of traffic for their respective classifications and are able to accommodate an increase in traffic.

2.3.2 Tarana Road

Amber commissioned a tube count on Tarana Road near the proposed site access location to determine the existing road environment. The tube count was undertaken from Wednesday 6 March to Wednesday 13 March 2024. The survey results are provided in Appendix C with a summary presented in Table 4.

Table 4: Tarana Road Traffic Volumes – 2.1km east of O'Connell Road

	Weekday Traffic (vpd)	Weekday AM Peak - 8:00 (vph)	Weekday PM Peak - 16:00 (vph)	85th Percentile Speed	Heavy Vehicle Percentage
Eastbound	137	5	18	94.7 km/hr	10%
Westbound	133	20	11	97.2 km/hr	
Both Directions	270	25	29	94.8 km/hr	

The survey data indicates Tarana Road currently experiences a relatively low level of daily traffic in the order of 270 vehicles per day which is split evenly between eastbound and westbound vehicles. The 85th percentile speed is generally equivalent to the posted speed limit and the road accommodates approximately 10% heavy vehicle traffic.

Overall, the data indicates Tarana Road currently accommodates a relatively low level of traffic for its road classification and is able to accommodate an increase in vehicle traffic.

2.4 Public Transport Services

A range of bus services are provided along O'Connell Road and Tarana Road within the vicinity of the site as outlined in Table 5.

Table 5: Bus Services

Route No.	Route Name	Services	Schedule / Details
515	Bathurst to Oberon	Weekdays only. Four services are provided daily in the northbound direction towards Bathurst with three services provided in the southbound direction towards Oberon.	Services travel along O'Connell Road and pass Tarana Road at approximately the following times: • 8:15am, 8:20am, 12:10am and 4:50pm northbound. • 11:15am and 3:55pm southbound.
S782	Bathurst to Locksley School Bus	One service is provided in each direction on school days only.	Services travel along O'Connell Road and Tarana Road and pass the Project Area at approximately 8:02am (westbound) and 4:06pm (eastbound). The bus stops near 264 Tarana Road which is approximately 500m west of the proposed site access.
S786	Bathurst to O'Connell School Bus	One service is provided in each direction on school days only.	Services travel along O'Connell Road and pass Tarana Road at approximately 8:18am (northbound) and 3:48pm (southbound).

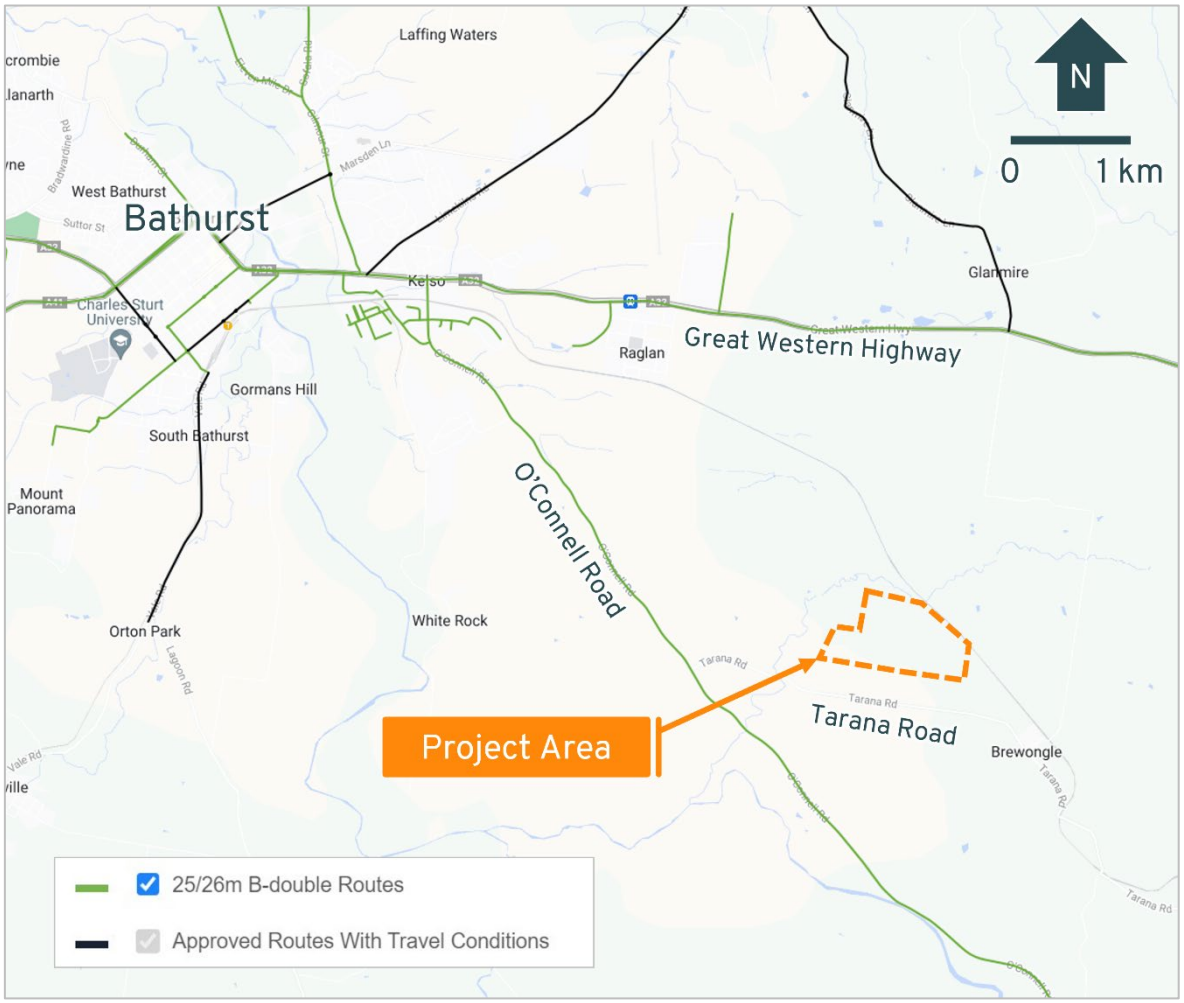
A range of public and school bus services are also provided within the Bathurst city area including the northern section of O'Connell Road within the suburb of Kelso.

2.5 Restricted Vehicle Access

2.5.1 B-Doubles

The TfNSW Restricted Access Vehicle Map for the surrounding area is provided within Figure 5. The green lines indicate approved B-Double routes while the black lines represent approved routes with travel conditions. The figure shows that O'Connell Road and the surrounding State Road network are B-Double approved routes although travel conditions are applicable on some sections of the network. Accordingly, the site has access to the B-Double approved road network via O'Connell Road with Tarana Road being unrated.

Figure 5: TfNSW 26m B-Double Network Approved Roads



Source: TfNSW Restricted Access Vehicle Map

2.5.2 Class 1 OSOM Vehicles

The TfNSW Oversize Overmass (OSOM) Load Carrying Vehicles Network map for the surrounding area is provided within Figure 6. The map shows approved routes for eligible vehicles operating under the Multi-State Class 1 Load Carrying Vehicles Mass and Mass Exemption Notices. A summary of the allowances under each exemption within New South Wales notice is provided below:

- Dimension: up to 5.0m wide, 5.0m high, 30.0m long and 7.5m rear overhang on approved (state owned) routes in NSW.
- Mass: up to 115.0 tonnes for rows of 8 tyres low loaders and up to 77.5 tonnes for rows of 4 tyres low loader combinations.

Vehicles operating in the daytime and not exceeding 3.5m wide or 26m long generally do not require a pilot vehicle.

The green lines indicate approved Class 1 OSOM Vehicle routes. Accordingly, the site has access to the Class 1 OSOM approved road network via O'Connell Road with Tarana Road being unrated.

Figure 6: TfNSW Class 1 Oversize Overmass Load Carrying Vehicles Network Approved Roads

Source: TfNSW Restricted Access Vehicle Map

2.5.3 Special Purpose Vehicles (SPVs)

Vehicles built for a purpose other than carrying goods such as a mobile crane, a concrete pump or drill rig are defined as Special Purpose Vehicles (SPVs).

The NSW Special Purpose Vehicle Network map provides details of the approved roads as well as conditions of access and travel restrictions for eligible SPVs operating under the:

- National Class 1 Special Purpose Vehicle Notice;
- NSW Class 1 4-Axle & 5-Axle All Terrain Mobile Crane Mass and Dimension Exemption Notice; or
- NSW Class 1 All Terrain Mobile Crane and Dolly Combination Mass and Dimension Exemption Notice.

Roads that are not approved on the map require an access permit from the National Heavy Vehicle Regulator or the relevant road manager. There are six SPV access networks for cranes travelling on approved State Roads in NSW:

- SPV Level 1: Cranes and SPVs up to 40 tonnes that comply with the Bridge Formula.
- SPV Level 2: Crane and dolly combinations up to 70 tonnes that comply with the Bridge Formula.
- SPV Level 3: 3-axle All Terrain Cranes up to 36 tonnes and 4-axle All Terrain Cranes up to 43 tonnes.
- SPV Level 4: 4-axle All Terrain Cranes up to 45.8 tonnes and 5-axle All Terrain Cranes up to 50 tonnes.
- SPV Level 4 / 12t per axle: 4-axle All Terrain Cranes up to 48 tonnes and 5-axle All Terrain Cranes up to 50 tonnes.
- SPV Level 6: 5-axle All Terrain Cranes up to 60 tonnes.

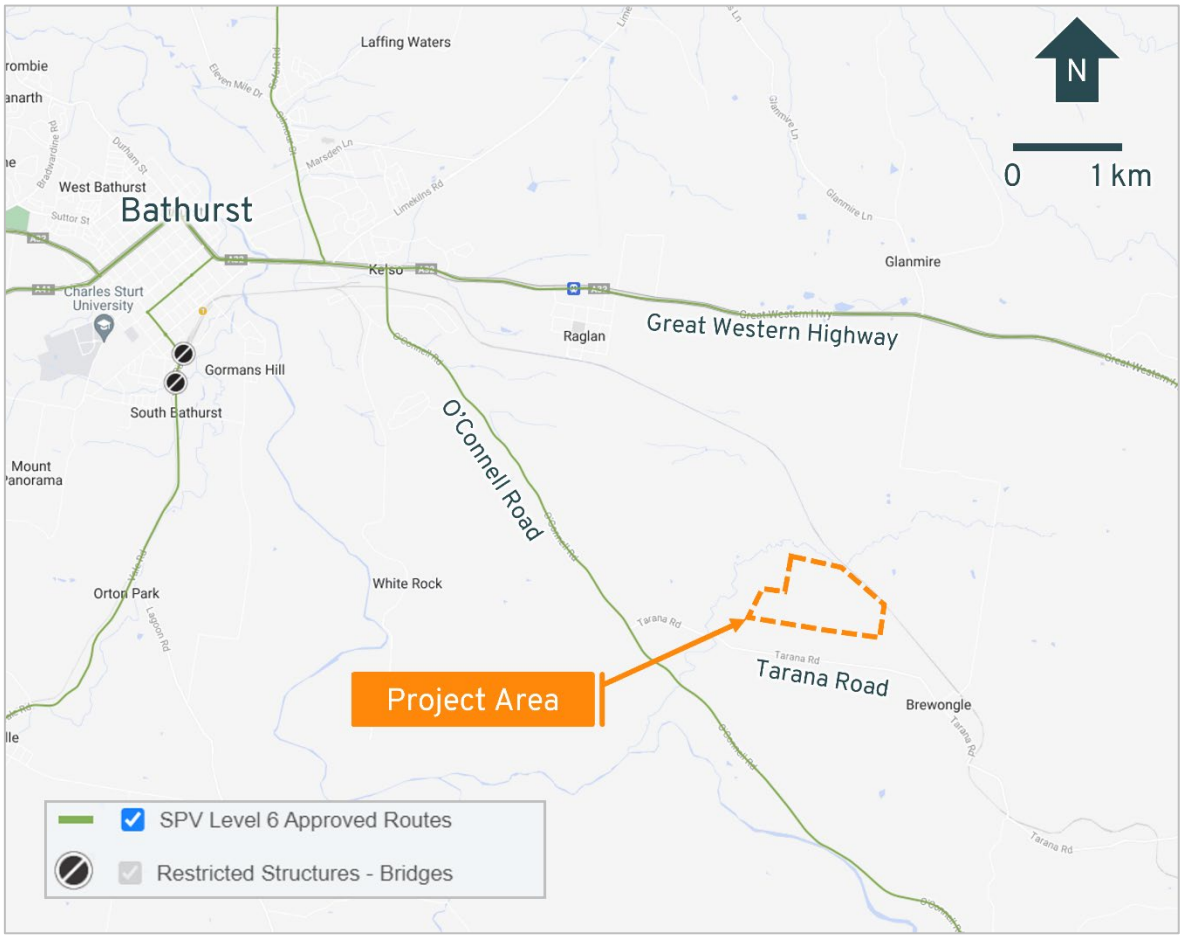
The approved routes for SPV Level 6 vehicles travelling within the surrounding area are identified within Figure 7. The figure shows that SPV Level 6 vehicles are approved from Bathurst to Tarana Road along O'Connell Road. There is no SPV access on Tarana Road to the site.

It is noted that the approved SPV Level 6 route from the south is limited due to restricted structures (bridges) on the network, including the O'Connell Road bridge over Wisemans Creek in Oberon, approximately 25km south of Tarana Road.

Some approved routes for SPV vehicles classified Level 3 or above are limited due to restricted structures (bridges) on the network within Bathurst, including:

- Rocket Street – Road bridge over rail near Vale Road in South Bathurst.
- Vale Road – Road bridge over Hawthornden Creek, approximately 450m south of Rocket Street in South Bathurst.

Figure 7: TfNSW SPV Level 6 Network Approved Roads



Source: TfNSW Restricted Vehicle Access Map

2.6 Crash History

Amber has conducted a review of the TfNSW Centre for Road Safety Crash and Casualty Statistics database for all recorded crashes within the surrounding area of the Project. The crash database provides the location and severity of all injury and fatal crashes for the five-year period from 2018 to 2022. The search area included the following roads:

- Tarana Road between O'Connell Road and the Project Area;
- O'Connell Road between Littlebourne Street and Tarana Road; and
- All associated intersections.

The results of the crash search are summarised in Table 6.

Table 6: Crash Search Results

Road	Location	Severity	Crash Type	Date and Time	Light and Weather Conditions
O'Connell Road	1 km south of Armitage Road	Moderate Injury	Off road to the left	April 2021 (06:00 - 07:59)	Daylight (Fine)
O'Connell Road	North of Blue Ridge Drive	Serious Injury	Rear end (vehicles in same lane)	December 2022 (12:00 - 13:59)	Daylight (Fine)

The crash search indicates that there are no discernible crash trends within the surrounding road network, and the crashes are distributed on the network with no 'Black Spots'. It is noted that no crashes were recorded along Tarana Road including at the intersection with O'Connell Road. Given the large search area, the associated traffic volumes on the roads, the road classifications, and the rural high-speed road environment, it is concluded that the road network is currently operating in a relatively safe manner.

3. Project Description

3.1 Proposed Works

The Project involves the construction of a ground mounted photovoltaic solar array which would have capacity to generate up to 90MW of renewable energy. The Solar Farm proposes to connect into an existing 132 kV TransGrid transmission line (line 94X) that traverses the northern boundary of the Project. The Project would consist of the following components:

- Single axis tracker photovoltaic solar panels mounted on steel frames over most of the site (maximum tilt up to 4.5m in height).
- Battery Energy Storage Systems (BESS) with a rating of up to 90MW / 180MWh.
- Underground and overground electrical conduits and cabling to connect the arrays to the inverters and transformers.
- Systems of invertor units and voltage step-up throughout the arrays.
- On site substation, connecting to the existing 132 kV TransGrid transmission line.
- Site office and maintenance building, vehicle parking areas, internal access tracks and perimeter security fencing.
- Site access track off Tarana Road.

3.2 Construction Information

The physical construction of the project is expected to commence in 2026 and take approximately 12-18 months, with the peak construction period expected to take 6 months. Construction activities would be undertaken during standard daytime construction hours, as follows:

- Monday to Friday: 7am – 6pm
- Saturday: 7am – 1pm
- No work on Sundays or public holidays.

Any construction outside of these normal working hours would only be undertaken with prior approval from relevant authorities and consultation with impacted road users. A workforce of 200 people would be on-site during peak construction periods with the workforce expected to be primarily located in the surrounding region.

A Traffic Management Plan (TMP) would be prepared by the appointed contractor prior to construction commencing as outlined in Section 7.

4. Traffic Assessment

Traffic generated by the project can be separated into three distinct stages: construction, operation and decommissioning. The peak traffic generating potential is during construction which generates trips associated with the workforce accessing the Project Area and the delivery of raw materials and plant. During operation the project is expected to generate a lower amount of traffic associated with up to 4 maintenance personnel accessing the Project Area each day. Decommissioning is anticipated to generate a similar level of traffic to the construction stage.

The following provides an assessment of the potential traffic impacts of the Project on the road network function for each of the three stages.

4.1 Definitions

The following terminology is referenced throughout this section and within the remainder of the report.

Table 7: Traffic Assessment Definitions

Terminology	Definition
Volume	The number of vehicles travelling in one direction past a given point in the road. In traffic flow analysis, a volume usually relates to only one direction of flow. For the purposes of this assessment a vehicle would be included when travelling towards the Project Area and again when departing.
Vehicles per Day (vpd)	The volume of traffic occurring within a 24-hour period. For traffic volumes associated with the Project, this value is generally an even number to reflect the arrival and departure of each vehicle.
Vehicles per Hour (vph)	The volume of traffic occurring within a one hour period.
Heavy Vehicle	A vehicle with a Gross Vehicle Mass (GVM) or Aggregate Trailer Mass (ATM) of more than 4.5 tonnes as defined in the Heavy Vehicle National Law (HVNL).
General Access Vehicle (GAV)	General Access Vehicles (GAV) do not require a permit or notice to access road networks; these vehicles have as-of-right access to the network unless signposted otherwise (e.g. a bridge tonnage restriction).
Restricted Access Vehicle (RAV)	Restricted Access Vehicles (RAV) include Class 1, 2 or 3 vehicles that operate under a notice or permit and vehicles operating under higher mass limits (HML) that have restrictions on the parts of the road network they can access.

4.2 Construction Phase

4.2.1 Standard Construction Traffic Generation

Construction traffic generated by the Project on a day-to-day basis can be broadly separated into the following categories as outlined in Table 8.

Table 8: Standard Construction Traffic

Terminology	Definition
Light Vehicles	The use of light vehicles will be associated with transporting the workforce to/from the Project Area. A conservative vehicle occupancy of approximately 1.5 people per car has been adopted to calculate the light vehicle traffic generation noting the workforce would be encouraged to carpool.
Heavy Vehicles	
Shuttle Buses	The Applicant has advised that shuttle buses will be utilised to transport the majority of the workforce to/from Bathurst.
Rigid Trucks	Rigid Trucks will be used to deliver raw materials and smaller plant and have a typical length between 8 and 13 metres.
Truck and Dog	Truck and Dog vehicles consist of a rigid truck towing either a dog trailer or a pig trailer and are not more than 19 metres in length. A dog trailer is a trailer with axles at either end of the trailer, a pig trailer has the axles centred on the trailer. These vehicles will be utilised to transport the majority of quarry materials to/from the site.
Semitrailers	Semitrailers will be used to transport larger equipment and materials. These vehicles consist of a truck and a single trailer with a total length of 19 metres.
B-Doubles	B-Doubles will also be used to transport larger plant. B-Doubles consist of a truck with two trailers and have a maximum length of 26 metres.
OSOM not requiring pilot/escort	OSOM vehicles not exceeding 3.5m wide (day time travel) / 3.2m wide (night time travel) or 26m long generally do not require pilot or escort vehicles. This may include various load carrying vehicle combinations and/or Special Purpose Vehicles (including mobile cranes). Eligible vehicles operating under the Multi-State Class 1 Load Carrying Vehicles Mass and Mass Exemption Notices are able to utilise the NHVR Oversize Overmass Load Carrying Vehicles Network.
Non High Risk Heavy Vehicles Requiring Pilot/Escort	
OSOM requiring pilot/escort (excluding High Risk)	OSOM vehicles exceeding 3.5m wide (day time travel) / 3.2m wide (night time travel) or 26m long require at least one pilot or escort vehicle. This may include various load carrying vehicle combinations and/or Special Purpose Vehicles (including mobile cranes). Eligible vehicles operating under the Multi-State Class 1 Load Carrying Vehicles Mass and Mass Exemption Notices are able to utilise the NHVR Oversize Overmass Load Carrying Vehicles Network.
High Risk Heavy Vehicles Requiring Pilot/Escort	
High Risk OSOM requiring pilot/escort	A Transport Management Plan is required in NSW for all OSOM movements that are classified as 'High Risk' due to the vehicle/load dimensions and/or weight, travel on a 'High Risk' route and/or involve the transport of a 'Critical/Sensitive' load. This would include the transport of the main transformer(s). Refer Section 6.

The peak hour for construction traffic will occur at the start and end of the day when workers are transported to/from the Project Area. Most workers will typically arrive on-site between 6:00am and 7:00am and depart between 5:00pm and 7:00pm. Workers generally have staggered finish times which results in the evening peak hour being less pronounced, however for the purposes of this assessment it is conservatively assumed that the evening peak hour Project traffic is the same as the morning peak, and the evening peak hour occurs from 6:00pm to 7:00pm.

The construction traffic volumes for the Project have been provided by the Applicant. It is anticipated that during peak construction the Project would generate up to 40 light vehicles and 80 heavy vehicles per day. Table 9 summarises the forecast traffic volumes expected to be generated during the construction period of the Project.

Table 9: Traffic Generation During Construction Period

Vehicle Type		Average Construction Periods		Peak Construction Period	
		Vehicles per Day (vpd)	Peak Hour Volume (vph)	Vehicles per Day (vpd)	Peak Hour Volume (vph)
Light Vehicles (LV)		20	10	40	20
Heavy Vehicles (HV)	Shuttle Buses	8	4	10	5
	Rigid Trucks	10	2	20	4
	Truck and Dog	8	2	18	4
	Semitrailers	10	2	22	3
	B-Doubles / Non-high risk OSOM vehicles	6	2	10	5
	HV Subtotal	*42*	*12*	*80*	*21*
Total		**62**	**22**	**120**	**41**

Overall, the Project is expected to generate up to 41 vph in the morning and evening peak hours during the peak construction period, which would reduce to 22 vph during the average construction periods.

4.2.2 OSOM Vehicles

Restricted Access Vehicles including oversize/overmass (OSOM) vehicles will also be required for the delivery of large plant and equipment as follows:

- Non high risk Class 1 OSOM vehicles which can operate on the approved network outlined in Section 2.5.2 subject to travel conditions (including pilots); and
- High risk OSOM vehicles which exceed the Class 1 mass and/or dimension requirements and are subject to separate permit applications and regulations[1]. This includes vehicles associated with the delivery of the turbine components and substation transformers.

Vehicles built for a purpose other than carrying goods such as a mobile crane, a concrete pump or drill rig are defined as Special Purpose Vehicles (SPVs) and may also be classified as OSOM vehicles.

High risk OSOM vehicles will contribute the smallest percentage of vehicles accessing the Project Area during the construction period and are subject to separate permit applications and regulations. The movement and impact of these vehicles, and the subsequent road upgrades required, are discussed within Section 6. The following assessment focuses on the impacts of the regular light and heavy vehicles outlined in Table 9 which generate the bulk of the traffic and represent the typical traffic impact of the Project on a day-to-day basis.

[1] Refer to the TfNSW definition of High Risk OSOM here: https://www.transport.nsw.gov.au/operations/roads-and-waterways/business-and-industry/heavy-vehicles/road-access/oversize-andor

4.2.3 Traffic Distribution

It is anticipated that all of the workforce for the construction of the Project would be located in Bathurst. Materials and equipment will generally be sourced from within Bathurst or the surrounding area where practicable, with all larger plant expected to be delivered from Port Botany.

It is expected that all traffic accessing the site would travel from the northwest via O'Connell Road and Tarana Road. During the morning peak all vehicle trips would be toward the site and in the evening peak all vehicle trips would be away from the site. The majority of heavy vehicle trips would be distributed throughout the day and would be split evenly between inbound and outbound trips.

Based on the traffic distribution above the estimated vehicle trips generated by the site during the peak hours are shown in Figure 8 and Figure 9.

Figure 8: Expected AM Peak Hour Project Traffic Volumes During Peak Construction

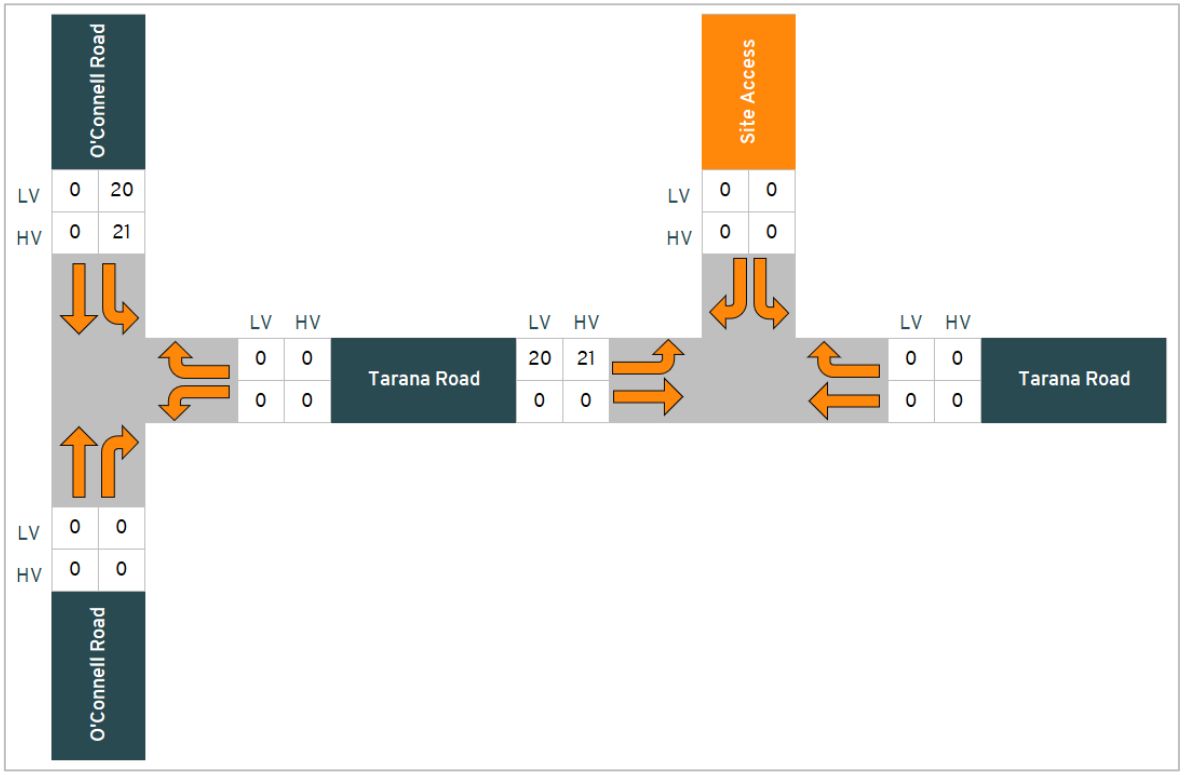
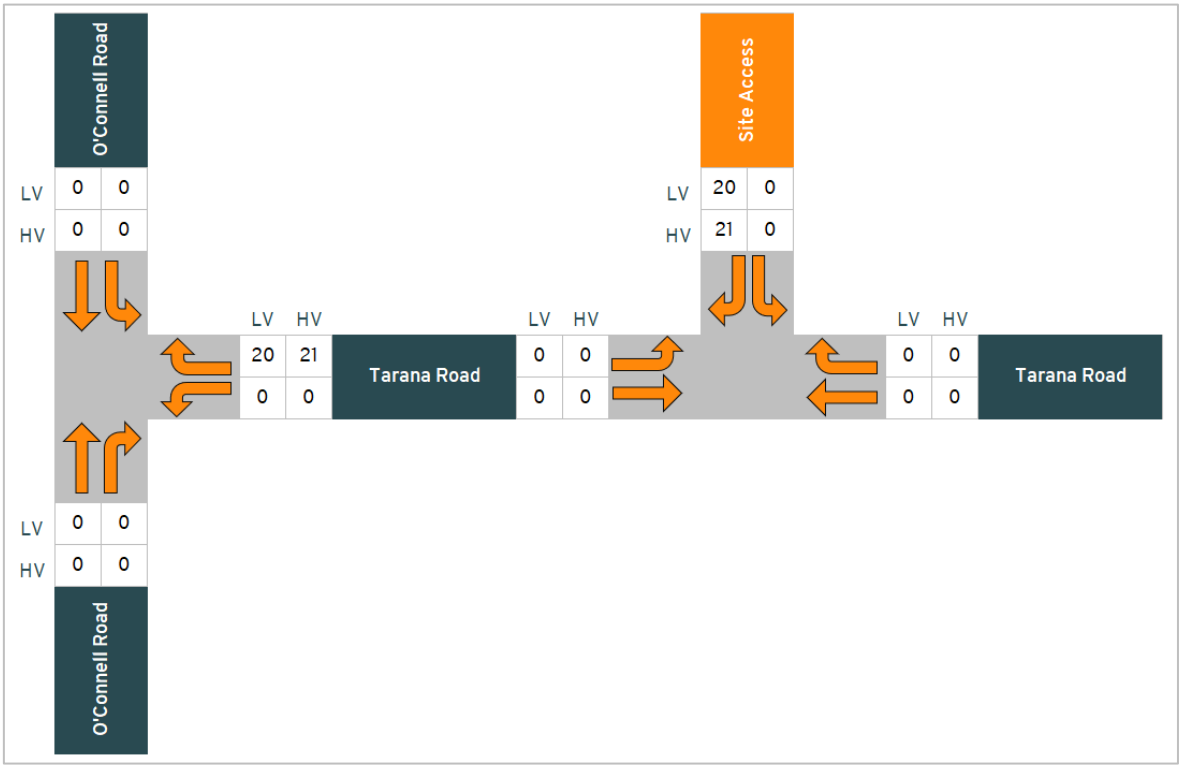


Figure 9: Expected PM Peak Hour Project Traffic Volumes During Peak Construction



4.2.4 Cumulative Traffic Impacts

The primary traffic impact of the solar farm is generated during construction which is anticipated to start in 2026 and take approximately 12-18 months. A summary of the major projects that are proposed in the surrounding area are identified in Table 10.

Table 10: Assessment of Cumulative Impacts of Nearby Developments

Project	Description	Potential Vehicle Conflict
Glanmire Solar Farm (Approved)	Development of a 60 MW solar farm, associated infrastructure and battery storage located approximately 2km north of the subject site, east of Bathurst along Great Western Highway.	There is potential for construction of both projects to overlap. Both projects are anticipated to have a workforce located in Bathurst. There is potential for construction vehicles to interact within Bathurst.
Central West Pumped Hydro Project (Preparing EIS)	Development of a 325 MW / 2,600 MWh pumped hydro energy storage and generation project, grid connection and ancillary infrastructure located approximately 11km east of the subject site with access from Great Western Highway.	There is potential for construction of both projects to overlap. Both projects are anticipated to have a workforce located in Bathurst. There is potential for construction vehicles to interact within Bathurst. Cumulative impacts are unable to be assessed further as the EIS has not yet been prepared for this project.

Project	Description	Potential Vehicle Conflict
Panorama BESS (Assessment)	Development of a Battery Energy Storage System with a capacity of 100 MW / 200 MWh and associated ancillary infrastructure located approximately 14km north-west of the subject site and 4km west of Bathurst.	There is potential for construction of both projects to overlap. Both projects are anticipated to have a workforce located in Bathurst. There is potential for construction vehicles to interact within Bathurst.
Mt Piper BESS (Approved)	Development of a standalone 500 MW battery storage system and ancillary infrastructure located approximately 17km northwest of Lithgow.	There is potential for construction of both projects to overlap. Vehicles may interact along the haulage routes from Port Botany or the Sydney metro area.
McPhillamys Gold Project (Approved)	Development of an open cut mine and water supply pipeline located approximately 35km west of the subject site and 25km south-west of Bathurst.	There is potential for construction of both projects to overlap. Both projects are anticipated to have a workforce located in Bathurst. There is potential for construction vehicles to interact within the town of Bathurst.
Great Western BESS (Approved)	Development of a 500 MW battery energy storage facility with associated infrastructure located approximately 36km north-east of the subject site near the town of Wallerawang.	There is potential for construction of both projects to overlap. Both projects are anticipated to have a workforce located in Bathurst. There is potential for construction vehicles to interact within Bathurst.
Wallerawang BESS (Approved)	Development of a 500 MW / 1,000 MW/h battery energy storage system with associated infrastructure and connection works located approximately 37km north east of the subject site and 47km east of Bathurst in the town of Wallerawang.	There is potential for construction of both projects to overlap. Both projects are anticipated to have a workforce located in Bathurst. There is potential for construction vehicles to interact within the town of Bathurst.
Sunny Corner Wind Farm (Prepare EIS)	Development of a wind energy generation project with up to 80 wind turbines, with energy storage and associated infrastructure, located approximately 35km east of Bathurst.	There is potential for construction of both projects to overlap. Both projects are anticipated to have a workforce located in Bathurst. There is potential for construction vehicles to interact within Bathurst. Cumulative impacts are unable to be assessed further as the EIS has not yet been prepared for this project.
Paling Yards Wind Farm (Response to Submissions)	Development of a wind farm with up to 47 wind turbines and associated infrastructure, located approximately 60km south of Oberon.	There is potential for construction of both projects to overlap. OSOM loads may travel along O'Connell Road however would operate under police escort with traffic management procedures to minimise impacts. Workforce and materials may be transported from Bathurst however details of the access route are not provided in the TIA – it is therefore assumed that these vehicles would utilise a shorter and faster route via Rockley Road.

Project	Description	Potential Vehicle Conflict
Crookwell 3 Wind Farm (Operational)	Development of a wind farm with up to 16 wind turbines and associated infrastructure, located approximately 120km south of Bathurst.	This project is currently operational with any traffic captured within the survey data.
The Pines Wind Farm (Scoping)	Development of a wind farm with up to 250 wind turbines and associated infrastructure, located approximately 60km south of Bathurst.	Cumulative impacts are unable to be assessed as the project is still in scoping phase.

The above assessment indicates that a number of projects are expected to generate additional vehicle traffic within Bathurst. The vehicles would be distributed on the surrounding road network and are expected to have a minimal cumulative impact on the operation of the road network.

The review indicates that none of the assessed projects are expected to utilise O'Connell Road or Tarana Road as part of their designated routes for construction traffic (excluding OSOM vehicles associated with the Paling Yards Wind Farm which would operate under escort and with specific traffic management procedures). Accordingly, any cumulative traffic impacts with surrounding projects are expected to be minimal based on the information available at the time of this assessment.

4.2.5 Traffic Assessment

All traffic travelling to/from the Project Area would travel via O'Connell Road and Tarana Road. In order to determine the ability of the road network to accommodate the traffic expected to be generated during the peak construction period, a traffic modelling exercise has been undertaken for the intersection of O'Connell Road and Tarana Road using the SIDRA intersection modelling software.

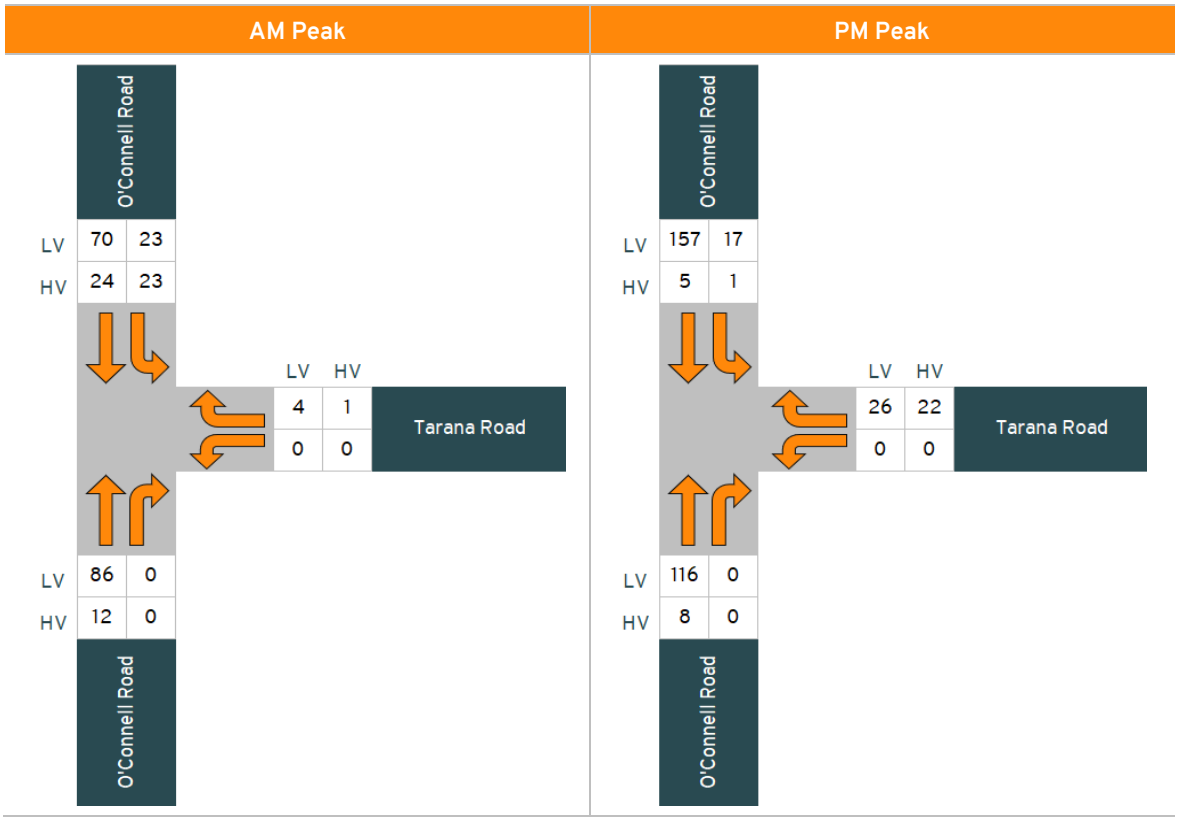
Level of Service is a qualitative measure used to describe the operating conditions of a section of road or an intersection. Levels of Service are designated from A to F from best (free flow conditions) to worst (forced flow with stop start operation, long queues and delays) and represent the perception of the road conditions by motorists including speed and travel time, freedom to manoeuvre, traffic interruptions, comfort and convenience, and safety. The assessment of the level of service for sign-controlled intersections is based on the average delay (seconds/vehicle) of the critical movement.

The traffic modelling exercise has been undertaken for the morning peak hour (6:00-7:00am) and evening peak hour (6:00pm-7:00pm) during the peak construction period. The traffic volumes utilised for the assessment are the total volumes for the following:

- Existing surveyed traffic volumes presented within Appendix C adjusted by an estimated 1.5% compounded annual growth rate over 4 years to reflect the end of the construction period in 2028; and
- The peak construction project traffic volumes presented within Figure 8 and Figure 9.

The resulting total traffic volumes used for the assessment are provided in Figure 10.

Figure 10: Peak Hour Volumes During Peak Construction – O'Connell Road / Tarana Road



The results of the SIDRA analysis for the morning and evening peak hour are provided within Appendix D and are summarised in Table 11.

Table 11: SIDRA Analysis Results Summary

Approach / Movement		Morning Peak Hour			Evening Peak Hour		
		Average Delay (sec)	95% Queue (m)	Level of Service	Average Delay (sec)	95% Queue (m)	Level of Service
O'Connell Road (South)	Through	0.0	0.1	A	0.1	0.1	A
	Right Turn	5.7	0.1	A	5.7	0.1	A
Tarana Road (East)	Left Turn	5.9	0.2	A	6.2	3.5	A
	Right Turn	7.8	0.2	A	10.0	3.5	A
O'Connell Road (North)	Left Turn	6.1	0.0	A	5.6	0.0	A
	Through	0.0	0.0	A	0.0	0.0	A

The SIDRA analysis indicates the following:

- The intersection is expected to operate with minimal queue lengths on all legs;
- The overall average delay at the intersection is 1.4 and 1.7 seconds in the morning and evening peak hour respectively; and
- The intersection is expected to continue to operate with good level of service (LOS A).

Accordingly, the intersection is expected to continue to operate with a good level of service with minimal queuing and delays expected during the peak construction period.

4.2.5.1 Impact to Public Transport Services

As outlined in Section 2.4 buses operate on O'Connell Road and Tarana Road. The impact to these bus services would be very modest with the surrounding local road network anticipated to continue to operate with significant delays or congestion during peak construction as outlined above.

4.3 Operational Phase

During operation, the solar farm is expected to generate a minimal level of traffic associated with maintenance and operation services. The solar farm is expected to be operated by up to 4 maintenance personnel resulting in a traffic generation of up to 8 vehicles per day which would result in a negligible change to the traffic environment. There would also be occasional light commercial vehicles delivering parts to the site but only as required for maintenance.

4.4 Decommissioning Phase

At the end of the operational life of the project all above ground infrastructure would be dismantled and removed from the project site. Internal roads, if not required for ongoing farming purposes or fire access, would be removed and the site reinstated as close as possible to its original state.

Traffic generation during decommissioning would be similar to traffic generation during the average construction period. A comprehensive Traffic Management Plan would be prepared prior to the decommissioning phase in conjunction with the relevant road authorities. This would aim to ensure adequate road safety and road network operations are maintained.

4.5 Summary

The Project is expected to generate the highest level of traffic during the peak construction period. The assessment presented above indicates that the road network is able to accommodate the project traffic during the peak construction period. The assessment also included a review of the cumulative traffic generated by other major Projects within the surrounding area.

During construction the vehicle trips throughout the middle of the day are expected to be predominantly associated with heavy vehicles with approximately 5-6 vehicles per hour. This increase in traffic would be within the daily variation of traffic volumes on the road network and can be readily accommodated.

It is anticipated that approximately 3 high risk OSOM vehicles would access the site during the construction phase. The vehicles would be unloaded and kept to their smallest practicable dimensions when departing the site. The vehicles will travel outside of the peak periods and would be able to be accommodated on the road network subject to the road upgrades and mitigation measures discussed in Section 6.5 which would be confirmed as part of specific permits that would be applied for prior to construction.

During operation the periodic increase in traffic of up to 8 vehicles per day associated with the 4 maintenance personnel would result in a negligible change to the traffic environment.

Accordingly, the road network is able to readily accommodate the traffic generated by the Project during the construction, operation, and decommissioning periods.

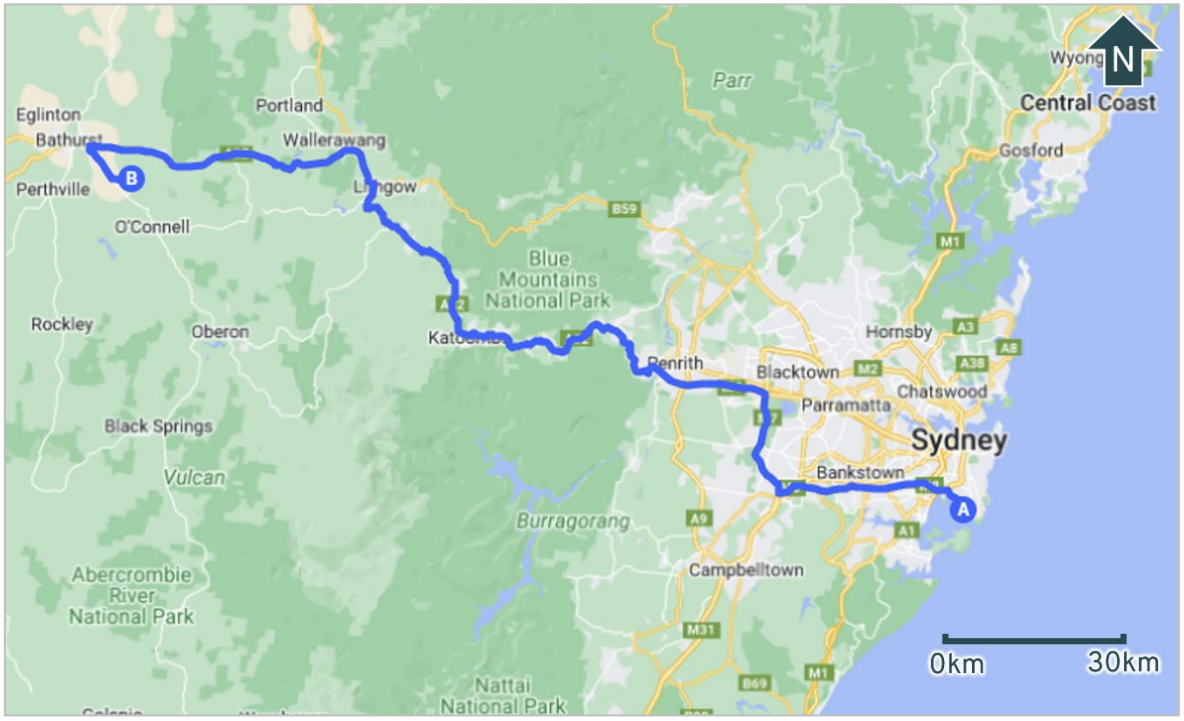
5. Heavy Vehicle Route Assessment

All plant is expected to be delivered from Port Botany. The following provides a review of the proposed access routes for heavy vehicles (excluding high risk OSOM vehicles) travelling from the port.

5.1 General Access Vehicles

All heavy vehicle Project traffic up to and including semitrailers would be classified General Access Vehicles (GAV) which have as-of-right access to the road network unless signposted otherwise. These vehicles would travel along a direct route between Port Botany and the site which utilises the Great Western Highway through the Blue Mountains region. The proposed access route measures approximately 225km and is outlined in Figure 11.

Figure 11: General Access Vehicle Route from Port Botany to Site



Source: Google Maps - Link

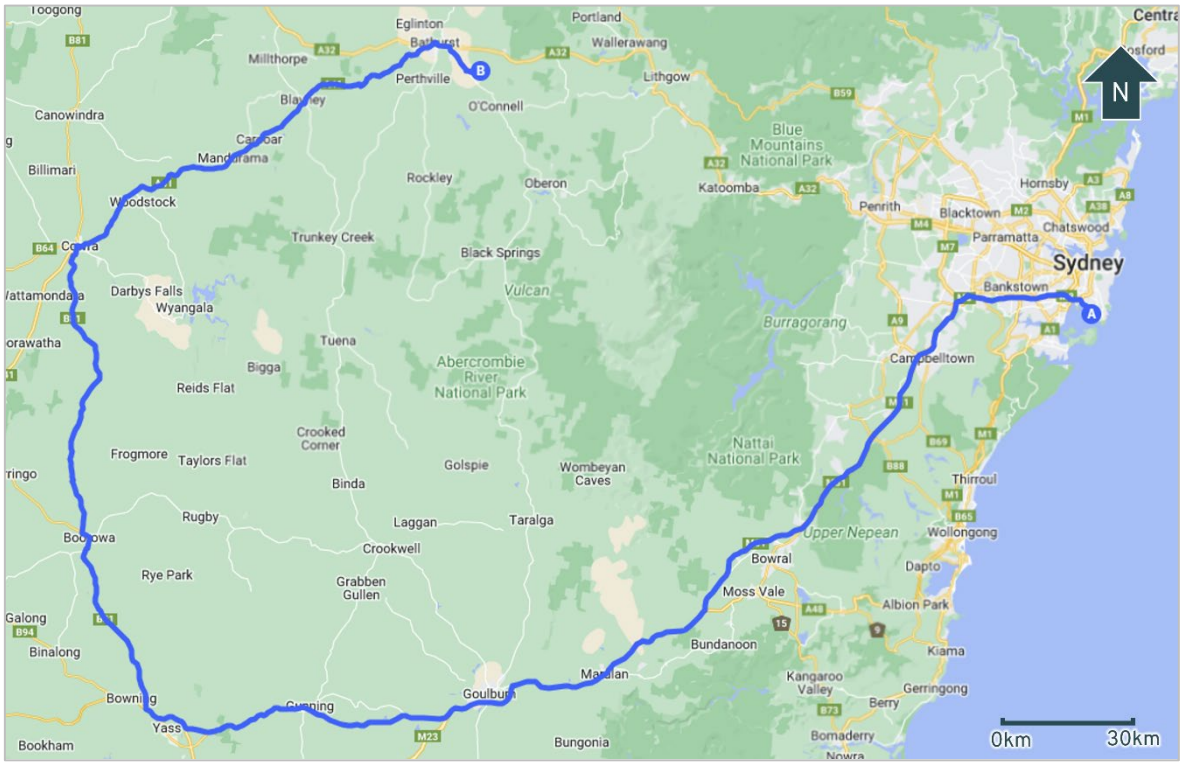
5.2 B-Double Access Route

The proposed access route for B-Doubles travelling from Port Botany to the Project Area is outlined in Figure 12 with a summary of the relevant roads provided in Table 12.

The access route measures approximately 519km and generally utilises roads that are designated for B-Double vehicles as outlined within the TfNSW Restricted Access Vehicle Map. It is noted that Tarana Road is unrated for B-Double vehicles and requires approval from Bathurst Regional Council for these vehicles to utilise the road.

A discussion on the suitability of Tarana Road for Project construction traffic is provided below.

Figure 12: B-Double Access Route from Port Botany to Site



Source: Google Maps - Link

Table 12: B-Double Vehicle Route - Access Roads

Road Name	State	Jurisdiction	B-Double Approved
Friendship Road	New South Wales	TfNSW	Approved
Bumborah Point Road			
Botany Road			
Foreshore Road			
General Holmes Drive (M1)			Approved with Travel Conditions (No Dangerous Goods)
M5 East Motorway			
South Western Motorway (M5)			Approved
Hume Motorway (M31)			
Lachlan Valley Way (B81)			
Marsden Street (B81)			
Murringo Road (B81)			
Lachlan Valley Way (B81)			
Mid Western Highway (A41)			
Great Western Highway (A32)			
Littlebourne Street			
O'Connell Road			
Tarana Road		Bathurst Regional Council	Unrated

5.3 Tarana Road

Tarana Road is a local road with a sealed carriageway width of 7.0 metres. The *Austroads Guide to Road Design Part 3: Geometric Design* states the following in relation to rural road widths:

> *'The desirable lane width on rural roads is 3.5 m. This width allows large vehicles to pass or overtake without either vehicle having to move sideways towards the outer edge of the lane. The lane width and the road surface condition have a substantial influence on the safety and comfort of users of the roadway.'*

Accordingly, the existing road width meets the desirable width as outlined in the Austroads Guide and is therefore considered to be suitable to accommodate Project traffic including heavy vehicles.

However, it is noted that advice from Bathurst Regional Council indicates that the bridge over Salt Water Creek does not currently meet the structural requirements for B-Doubles or OSOM vehicles. A replacement for the bridge has been designed which would allow access for these vehicles, and the Applicant will continue to liaise with Council to confirm the timing of the bridge reconstruction works which should occur prior to the commencement of the construction phase of the Project. The current design plans for the bridge replacement have been provided by Bathurst Regional Council and are included in Appendix E.

5.4 Mitigation Measures

A TMP is to be developed which is recommended to include the following measures to minimise the impact of construction traffic:

- Prior to construction, a pre-condition survey of the relevant sections of the existing road network should be undertaken in consultation with Council. During construction the sections of the road network utilised by the proposal are to be monitored and maintained to ensure continued safe use by all road users, and any faults attributed to construction of the Project would be rectified. At the end of construction, a post-condition survey would be undertaken to ensure the road network is left in a condition equivalent to that at the start of construction.
- Neighbours of the Project are to be consulted and notified regarding the timing of major deliveries which may require additional traffic control and disrupt access.
- Heavy vehicles should avoid travel during peak bus operating times to limit the interaction of larger vehicles and vulnerable road users. Buses operate along O'Connell Road and Tarana Road as outlined in Section 2.4.

Therefore, it is concluded that the road network is suitable to accommodate the future light and heavy vehicle traffic volumes generated by the Project.

6. High Risk OSOM Vehicles

High risk OSOM vehicles[2] will be required to deliver larger plant to the site such as the sub-station transformer.

The Applicant has advised that 3 high risk OSOM vehicles would be required to access the site during the construction period. The vehicles would be unloaded and kept to their smallest practicable dimensions when departing the site to avoid classification as high risk OSOM where possible.

The vehicles anticipated to be classified as high risk are as follows:

- One vehicle to transport the main transformer from Port Botany which would result in an OSOM vehicle accessing the site loaded and departing the site unloaded during construction and decommissioning.
- Two vehicles to transport the modular building resulting in the vehicle being classed as oversize in one direction only for both construction and decommissioning. The modular building would also be delivered from Port Botany and is expected to utilise the same access route as the transformer delivery.

These high risk OSOM vehicles will travel outside of the peak periods and would be subject to the road upgrades and mitigation measures discussed throughout this section which would be confirmed as part of specific permits that would be applied for prior to construction. The following provides a review of the proposed access route.

6.1.1 Transformer Vehicle

The largest component to be delivered to the site is expected to be the transformer. The Applicant has provided information regarding the expected specifications of the transformers which are outlined in Table 13.

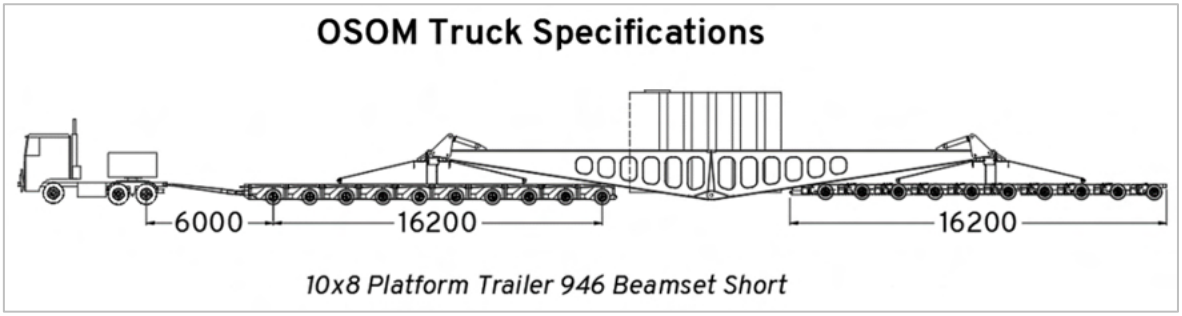
Table 13: Estimated Transformer Specifications

Length (mm)	Width (mm)	Height (mm)	Mass	Trailer Specs
8400	4000	4250	< 150 tonnes	10x8 + 10x8 Platform Trailer Beamset

An OSOM vehicle configuration has been identified for the expected transformer model. The vehicle used for the assessment is shown within Figure 13 and is based on feedback from a transport company which confirmed that the vehicle specification would be suitable for the weight and size of the transformer.

[2] Refer to the TfNSW definition of High Risk OSOM here: https://www.transport.nsw.gov.au/operations/roads-and-waterways/business-and-industry/heavy-vehicles/road-access/oversize-andor

Figure 13: High risk OSOM Vehicle



The Applicant has advised that the Port Botany is to be utilised as the origin point for the delivery of the transformer. In order to determine whether any civil works are required to accommodate the high risk OSOM vehicle on the road network a route assessment has been undertaken. The high risk OSOM vehicle would be provided with escort and pilot vehicles in accordance with relevant authority requirements.

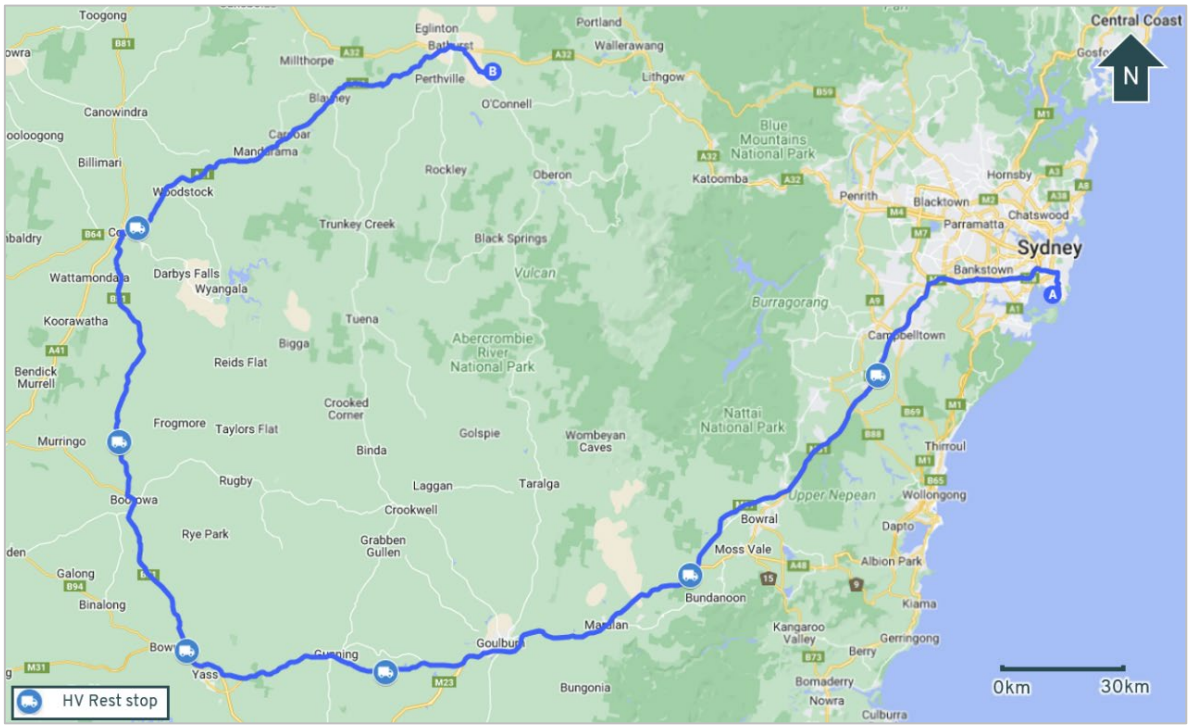
The proposed high risk OSOM route varies from the B-Double access route (Section 5.1) between Port Botany and Western Sydney due to the height restrictions of the M5 Motorway tunnels. The route would utilise the following roads to access the site as outlined in Table 14.

Table 14: High risk OSOM Route – Access Roads

Road Name	Jurisdiction
Friendship Road	TfNSW
Bumborah Point Road	
Botany Road	
Bunnerong Road	
Gardeners Road	
M8 Motorway	
M5 East Motorway	
South Western Motorway (M5)	
Hume Motorway (M31)	TfNSW
Lachlan Valley Way (B81)	
Marsden Street (B81)	
Murringo Road (B81)	
Mid Western Highway (A41)	
Great Western Highway (A32)	
Littlebourne Street	
O'Connell Road	
Tarana Road	Bathurst Regional Council

The access route, along with 6 identified truck rest areas that could be used along the route, are shown in Figure 14. It is noted that additional rest stop areas may also be available along the route. A total of 15 points of interest for further assessment were identified as part of the assessment of the access route. The points of interest have been assessed in further detail, including the site access, with the full assessment provided within Appendix A.

Figure 14: High risk OSOM Route



Source: Google Maps - Link

The assessment of the access route identified that the vehicle is able to access the site with minor civil works, signage relocation and suitable traffic management measures. A review of the key constraints along the route is provided below with an overview of the proposed treatments and/or management measures at each point of interest.

6.2 Bridge and Rail Infrastructure

A desktop assessment of bridge and rail infrastructure has been undertaken to determine interfacing locations with the proposed high risk OSOM route.

6.2.1 Bridges and Overpasses

A detailed review of the load limits on all bridges and structures along the route will be undertaken as part of the permit process for the OSOM vehicles, however it is noted that the route predominantly utilises major highways between Port Botany and Bathurst, with all State roads forming part of the approved Class 1 OSOM network. The State roads along the route been utilised for other renewable energy projects in the area and no restricted structures have been identified based on the TfNSW Oversize Overmass Load Carrying Vehicles Network map.

A formal request for a bridge and culvert assessment was made with the appropriate team at TfNSW in September 2025 for the transformer vehicle combination. The Special Permits Unit (SPU) team advised that a bridge and culvert assessment would not be required as the route is on the TfNSW internal HLP (High Load Platform) map. Their response is included for reference in Appendix J.

The access route makes use of Tarana Road which is a local road managed by Bathurst Regional Council. One bridge has been identified along Tarana Road over Salt Water Creek, and advice from Council indicates that the bridge does not currently meet the structural requirements for B-

Doubles or OSOM vehicles. A replacement for the bridge has been designed which would allow access for these vehicles, and the Applicant will continue to liaise with Council to confirm the timing of the bridge reconstruction works which should occur prior to the commencement of the construction phase of the Project. The current design plans for the bridge replacement have been provided by Bathurst Regional Council and are included in Appendix E.

6.2.2 Underpasses

An assessment of the height clearances along the route was undertaken to confirm the suitability of the proposed route for a total proposed load height of approximately 4.5m. The overpass with the lowest clearance along the designated route is on the South-Western Motorway (M5) at Heathcote Road. The clearance at this location is 4.93 metres. It is also noted that some overhead electrical cables along the route may require lifting which would be confirmed prior to construction.

Accordingly, the available height clearance along the proposed route is appropriate to accommodate the high risk OSOM vehicles.

6.2.3 Railway Level Crossings

A total of 3 railway level crossings have been identified along the high risk OSOM route as outlined in Table 15 which includes advice from the relevant rail authority for each crossing.

Table 15: Railway Level Crossing Assessment

Railway Crossing Location	Rail Authority	Authority Advice
Mid Western Highway near Lynch Street, Cowra	Disused track	This rail line is understood to be currently unused and accordingly it is expected that OSOM vehicles will be able to cross the tracks. A TMP will be prepared prior to construction which would confirm the operation of the rail lines and any crossing requirements applicable at the time of transport.
Mid Western Highway near Pine Mount Road, Cowra	Disused track	
Mid Western Highway near Railway Lane, Blayney	UGL Regional Linx	Highly likely a Rail Protection Officer would be required to supervise the crossing as is standard for a Class 1 load of this nature. The crossing is on a passenger line and so greater risks are incurred with an OSOM vehicle crossing. A TMP would be required at the application stage. Full correspondence provided in Appendix I.

Written approval will be sought from the relevant rail authorities for all level crossings as part of the TMP. Accordingly, the high OSOM traffic is expected to have no major impact on the operation or safety of the railway level crossings.

6.3 Rest Areas

Two rest areas have been identified along the high risk OSOM transport route which may be utilised for fatigue management:

1. Breadalbane Rest Area (*Map Link*)
2. Godfreys Creek Rest Area (*Map Link*)

Swept path assessment of the proposed rest areas is included within the route assessment (Appendix A) and indicates that the vehicle can suitably access each rest area while maintaining access for general traffic. It is noted that additional rest areas may also be available along the route which could be adopted if required due to unforeseen circumstances. Operating protocol in relation to the use of any rest areas would be outlined as part of the Transport Management Plan to be prepared prior to construction in order to ensure appropriate access is maintained for general traffic.

6.4 Summary

The route assessment prepared by the high risk OSOM vehicle (Appendix A) identifies a number of road upgrades required in order to allow the vehicles to successfully access the site from Port Botany, with strategic designs included for all upgrades on the State Road network.

A schedule of road upgrades is provided in Table 16. Areas where road upgrades are required have been highlighted in the table. Escorts and spotters will be required at all locations to control traffic and ensure the vehicle and load are clear of infrastructure.

Table 16: Road Upgrade Schedule – high risk OSOM Vehicles

Pinch Point	Location	Required Road Upgrades	Road Authority
Sydney Metropolitan Area			
01	Bumborah Point Road / Friendship Road (Port Botany, NSW)	Remove sections of median / traffic island and replace with painted islands.	TfNSW
02	Botany Road / Bumborah Point Road (Matraville, NSW)	Remove sections of median / traffic island and replace with painted islands.	TfNSW
03	Botany Road / Bunnerong Road (Matraville, NSW)	Remove sections of median / traffic island and replace with painted islands. Relocate two poles with CCTV and solar panel/cabinet.	TfNSW
04	Gardeners Road / Bunnerong Road (Matraville, NSW)	No road upgrades required.	TfNSW
Regional NSW			
05	Hume Highway / Lachlan Valley Way (Bowning, NSW)	No road upgrades required.	TfNSW
06a	Marsden Street / Pudman Street (Boorowa, NSW)	Remove roundabout and two traffic islands, replace with painted islands.	TfNSW
06b	Marsden Street near Brial Street (Boorowa, NSW)	No road upgrades required.	TfNSW
07	Lachlan Valley Way / Murringo Road (Boorowa, NSW)	No road upgrades required.	TfNSW

Pinch Point	Location	Required Road Upgrades	Road Authority
08	Mid Western Highway / Lachlan Valley Way (Cowra, NSW)	Remove traffic island and replace with painted island.	TfNSW
09	Mid Western Highway (Cowra, NSW)	No road upgrades required.	TfNSW
10	Mid Western Highway (Blayney, NSW)	No road upgrades required.	TfNSW
11	Great Western Highway / Brilliant Street (Bathurst, NSW)	Remove section of roundabout and replace with painted island.	TfNSW
12	Great Western Highway (Bathurst, NSW)	No road upgrades required.	TfNSW
13	Great Western Highway / Littlebourne Street (Kelson, NSW)	No road upgrades required.	TfNSW
14	O'Connell Road / Tarana Road (Brewongle, NSW)	Road widening proposed as outlined in Section 7.1.	Bathurst Regional Council
15	O'Connell Road / Site Access (Brewongle, NSW)	Temporary hardstand to be provided on the south side of Tarana Road.	Bathurst Regional Council

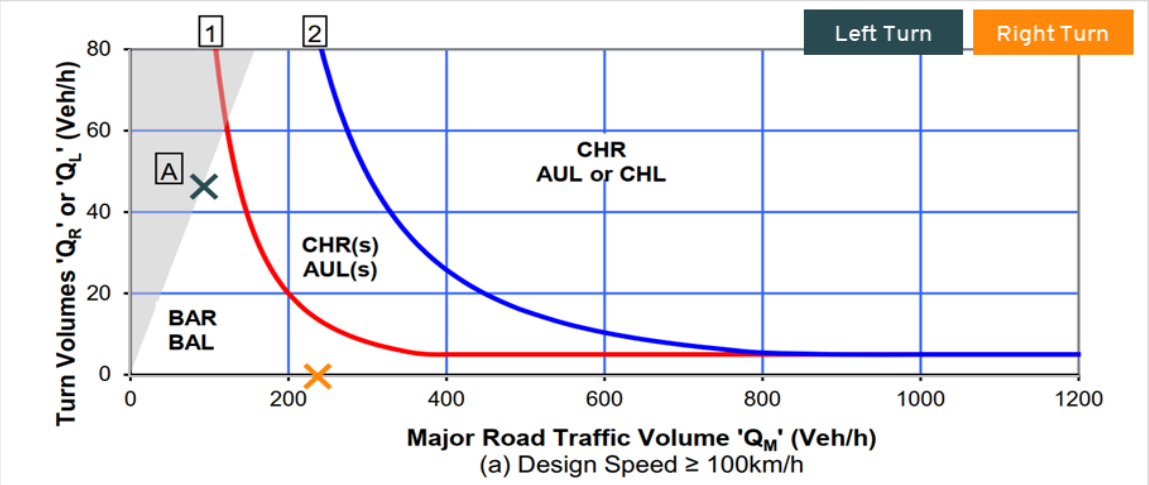
Accordingly, it is concluded that the proposed route is suitable for use by high risk OSOM vehicles associated with the Project with permits to be applied for as part of the TMP. It is recommended that any high risk OSOM movements be timed so they do not coincide with other high risk OSOM vehicles within the surrounding area to limit the impact to the road network, which can be undertaken as part of the permit application.

7. Intersection Assessment

7.1 Turn Treatments

Austroads Guide to Traffic Management Part 6: Intersections, Interchanges, and Crossings specifies the turning treatments required at intersections. An assessment has been undertaken for the intersection of O'Connell Road and Tarana Road in order to ensure vehicles are able to safely leave the State Road network. Figure 3.25 of the guide specifies the required turn treatments on the major road at unsignalised intersections and is provided below in Figure 15 for a design speed of 100km/hr or greater.

Figure 15: Figure 3.25 of Austroads Guide to Traffic Management Part 6



The requirement to provide turn facilities at the intersection is primarily generated during the morning peak hour when the workforce access the site, which occurs from 6:00am to 7:00am. Table 17 identifies the required turning treatments based on the expected traffic volumes at the intersection (Figure 10) and the associated volumes have been plotted within Figure 15.

Table 17: Turning Volumes for Turn Treatment Calculations – O'Connell Road / Tarana Road

Turning Treatment	Traffic Volume (vph)		Requirement
	Turn Volume	Major Road	
Right Turn	0	238	N/A
Left Turn	46	94	BAL

All project traffic is expected to travel to/from the north of the site only with construction personnel, materials and equipment turning left into Tarana Road from O'Connell Road. Therefore, the intersection would require a Basic Left Turn (BAL) treatment. The intersection is currently provided with Auxiliary Left Turn (AUL) and Auxiliary Right Turn (AUR) treatments which exceed the requirements of the Austroads Guide.

In order to confirm the intersection can accommodate B-Double vehicles, a swept path assessment has been provided within Appendix F using the Autodesk Vehicle Tracking software. The assessment demonstrates that the vehicle is able to suitably turn to/from Tarana Road subject to intersection widening at the north-eastern corner which is proposed to occur prior to commencement of the construction period. Accordingly, it is concluded that the intersection is able to accommodate the vehicles expected to access the site subject to the proposed widening.

7.2 Sight Distance

Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections specifies the Safe Intersection Sight Distance (SISD) as the minimum sight distance which should be provided along the major road at any intersection. Table 3.1 of the guide specifies the SISD required for various design speeds. Given O'Connell Road has a speed limit of 100km/hr a design speed of 110km/hr has been adopted which requires an SISD of 300 metres based on a reaction time of 2.5 seconds.

The available sight distance at the intersection exceeds the requirements of the Austroads Guide given the relatively flat and straight alignment of the road network with vegetation generally limited to low-level ground cover. The sight distance for each direction is depicted within Figure 16 with a plan view provided in Appendix F.

Accordingly, vehicles are expected to be able to safely enter the State Road network at the intersection.

Figure 16: Sight Distance Assessment

O'Connell Road / Tarana Road	
Facing north	**Facing south**

8. Site Access

8.1 Design

The layout of the site and the proposed access location is shown within Figure 1. A swept path assessment has been undertaken for the access which is provided within Appendix G and demonstrates the access has been suitably designed to cater for the Project traffic expected to access the site. It is noted that vehicles exiting the site may be required to wait for an entering vehicle to pass before entering Tarana Road, which is considered acceptable for the following reasons:

- During the morning peak all vehicle trips would be toward the site and in the evening peak all vehicle trips would be away from the site.
- During construction the vehicle trips throughout the middle of the day are expected to be predominantly associated with heavy vehicles with approximately 5-6 vehicles per hour split between inbound and outbound movements.
- The proposed arrangement is expected to improve road safety by preventing potential sight distance issues associated with general traffic which may be following or overtaking an entering vehicle.

Accordingly, it is concluded that the site access has been suitably designed and is able to accommodate the vehicles expected to access the site.

8.2 Sight Distance Assessment

Tarana Road has a speed limit of 100km/hr. A design speed of 110km/hr has been adopted which requires an SISD of 300 metres based on a reaction time of 2.5 seconds. The available sight distance at the site access would exceed the requirements of the Austroads Guide subject to removal of roadside vegetation as illustrated within Appendix H. Vegetation removal is proposed to occur prior to the commencement of the construction period and accordingly, vehicles are expected to be able to safely enter the road network from the site access location on Tarana Road.

9. Traffic Management Plan

It is recommended that a TMP be prepared prior to commencement of construction of the development. The TMP should be prepared and implemented in accordance with Australian Standard 1742.3 and the Work Health and Safety Regulation 2017. The TMP would provide additional information regarding the traffic volumes and distribution of construction vehicles that is not available at this time including:

- Road transport volumes, distribution and vehicle types broken down into:
  - Hours and days of construction.
  - Schedules for phasing/staging of the Project.
- The origin, destination and routes for:
  - Employee and contractor light vehicles.
  - Heavy vehicle traffic.
  - Oversize/overmass vehicles.
- A map of the primary haulage routes highlighting critical locations.
- An induction process for vehicle operators and regular toolbox meetings.
- A complaint resolution and disciplinary procedure.
- Local climatic conditions that may impact road safety of employees throughout all project phases (e.g. fog, wet and significant dry, dusty weather).

The following provides recommended measures that should be adopted within the TMP to minimise the impact of construction traffic along the road network.

9.1 Information and Communication

The implementation of a community information and awareness program would assist in managing the traffic impacts. Prior to construction commencing and during the construction period, a program of consultation shall be initiated to ensure local residents are aware of construction traffic accessing the project. This program may include elements of the following as appropriate to the phase of works:

- Press releases in local newspapers.
- Specific emails, newsletters and individual letter drops to neighbouring residents along the access route to the project.
- Provision of a website providing details of the status of works and contact details for complaints or enquiries.
- Provide key contact personnel and contact details, including out of hours contact information to residents, schools, public activities and business operating alongside the local route.
- Neighbours of the solar farm would be consulted and notified regarding the timing of major deliveries which may require additional traffic control and disrupt access.

9.2 Signage

If deemed necessary, specific warning signs advising of the changed traffic operations and heavy vehicles are to be appropriately located on approaches to and from the transport routes on Council roads. These should warn existing road users of changed traffic conditions. The use of day warning notices where signs are activated on a specific day to warn local road users of construction activities may also be applied.

9.3 Shuttle Buses

Shuttle buses would be used to transport workers to and from the Project Area from Bathurst. Details and volume of the employee shuttle bus service, including pick up and drop off points and associated parking arrangements for construction workers will be outlined in the TMP on consultation with Council post approval. Bus companies will also be contacted pre-construction to determine availability.

Measures to ensure the shuttle bus program can be practically achieved and monitored will be included within the Construction Environmental Management Plan and/or TMP. Recommended measures include:

- Limiting car parking for light vehicles on-site.
- Regular toolbox meeting sessions identifying method of travel to work and strongly encouraging use of the shuttle buses.
- Identifying the bus drop off/pick up locations and clearly communicating these locations with the workforce.
- Allocating a team member to be responsible for enforcement and management of the shuttle buses.
- Identifying mechanisms to be put in place if shuttle bus passenger numbers are not achieved.

9.4 On-Site Mitigation Measures

On-site mitigation measures targeted at safety and reducing the impact of on-site transport would include:

- On-site speed restrictions.
- Appropriate dust suppression measures.
- Maintenance program for on-site access tracks to ensure safe access.
- Loading and unloading is proposed to occur within the work area. No street or roads would be used for material storage at any time.
- Sufficient car parking is to be provided on-site to ensure vehicles do not park on the surrounding road network.
- All car parking and loading areas to be designed in accordance with the relevant Australian Standard (2890 series) and Council requirements.

9.5 Driver Protocols

Management of vehicular access to and from the site is essential in order to maintain the safety of the general public as well as the workforce. A Driver Code of Conduct is to be implemented as a measure to maintain safety within and around the site:

- All vehicles would enter and exit the site in a forward direction.
- Heavy vehicle movements should avoid peak school bus times to limit the interaction of larger vehicles and vulnerable road users.
- Safety initiatives for impacts to residential areas and/or school bus zones.
- Utilisation of only the designated transport routes.
- Construction vehicle movements are to abide by finalised schedules as agreed by the relevant authorities.
- All permits for working within the road reserve must be received from the relevant authority prior to works commencing.

The above recommendations will ensure the construction traffic would have a minimal impact to the capacity and safety of the surrounding road network. The TMP would be prepared in conjunction with consultation with Transport for NSW and Bathurst Regional Council.

10. Mitigation Measure Summary

The assessment has identified a number of traffic management measures that are to be implemented during construction and recommended to be included in the TMP. The key measures are summarised below:

- Prior to construction, a pre-condition survey of the relevant sections of the existing road network should be undertaken in consultation with Council. During construction the sections of the road network utilised by the proposal are to be monitored and maintained to ensure continued safe use by all road users, and any faults attributed to construction of the solar farm would be rectified. At the end of construction, a post-condition survey would be undertaken to ensure the road network is left in a condition equivalent to that at the start of construction.
- Neighbours of the solar farm are to be consulted and notified regarding the timing of major deliveries which may require additional traffic control and disrupt access.
- Heavy vehicles should avoid travel during peak bus operating times to limit the interaction of larger vehicles and vulnerable road users. Buses operate along O'Connell Road and Tarana Road as outlined in Section 2.4.
- It is recommended that any high risk OSOM vehicle trips be timed so they do not coincide with other high risk OSOM vehicles within the surrounding area to limit the impact to the road network, which can be undertaken as part of the permit application.

10.1 Schedule of Road Upgrades

In addition to the above traffic management measures, it is proposed to provide road upgrades as part of the Project which are to be constructed prior to construction commencing. A schedule of the road upgrades is provided below:

- Road upgrades are proposed at various locations to accommodate high risk OSOM vehicles as outlined in Section 6.5.
- It is proposed to carry out intersection widening at the north-eastern corner of the O'Connell Road / Tarana Road intersection to allow for simultaneous B-Double vehicle movements.
- Removal of roadside vegetation is proposed along the northern side of Tarana Road as shown in Section 8.2 to achieve the necessary sight distance.

The surface and carriageway of the roads, with the inclusion of the proposed upgrades, are suitable to accommodate the future traffic volumes.

11. Conclusion

Amber Organisation has assessed the traffic impacts of the proposed Brewongle Solar Farm. The solar farm is proposed to have a capacity of up to 90MW and includes the construction of a substation transformer and a Battery Energy Storage System with a capacity of up to 90MW/180MWh.

The Project Area is located on the northern side of Tarana Road in Brewongle, approximately 12 kilometres southeast of Bathurst. Access to the site is proposed via a new access road connecting with Tarana Road to the south of the site.

The construction period is expected to commence in 2026 and take approximately 12-18 months, with the peak construction period expected to take 6 months. A workforce of 200 people would be on-site during peak construction periods with the workforce expected to be primarily located in the surrounding region.

All plant is expected to be delivered from Port Botany. Materials and equipment will generally be sourced from within Bathurst or the surrounding area where practicable.

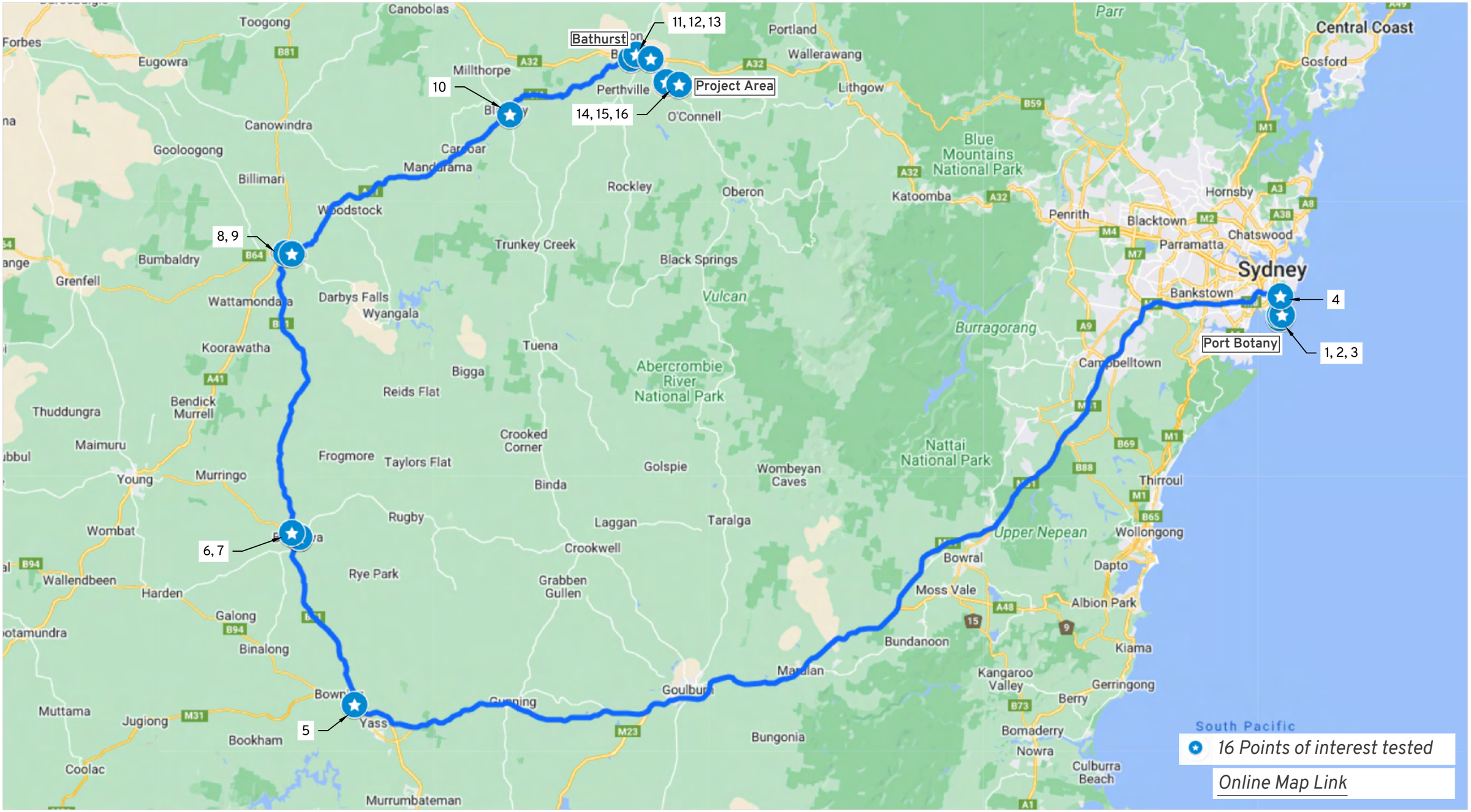
The above assessment determined the following:

- The site is expected to generate up to 120 vehicles per day during the peak construction period, including 80 heavy vehicles.
- The road network is able to accommodate the traffic generated by the development during the construction, operation and decommissioning stages.
- The B-Double access route generally utilises roads that are designated within the Transport for New South Wales Restricted Access Vehicle Map. It is noted that Tarana Road is unrated for B-Doubles and use of these vehicles would require approval from Bathurst Regional Council. it is noted that advice from Council indicates that the bridge over Salt Water Creek does not currently meet the structural requirements for B-Doubles or OSOM vehicles. A replacement for the bridge has been designed (Appendix E) which would allow access for these vehicles, and the Applicant will continue to liaise with Council to confirm the timing of the bridge reconstruction works which should occur prior to the commencement of the construction phase of the Project.
- The preferred access route for high risk oversize/overmass vehicles travelling from Port Botany has been identified within a Route Assessment which identifies some road upgrades required in order to allow the vehicles to successfully access the Project Area. The Route Assessment is provided within Appendix A of this document.
- The intersection of O'Connell Road and Tarana Road is currently provided with a AUL and AUR turn treatments and adequate sight distance to allow vehicles to safely enter the State Road network. It is proposed to carry out intersection widening at the north-eastern corner to allow for simultaneous B-Double vehicle movements.
- The site access on Tarana Road is designed to accommodate the Project traffic and is provided with adequate sight distance to allow vehicles to safely enter the road network, subject to removal of roadside vegetation which is proposed to occur prior to the commencement of the construction phase of the Project.
- In order to mitigate the impacts of the development during construction a TMP would be prepared which should include the recommendations provided within this document.

Accordingly, based on the assessment above, it is concluded that the proposed access arrangements for the solar farm are suitable to accommodate the expected construction vehicle types and traffic volumes during the construction and operation phase of the project.

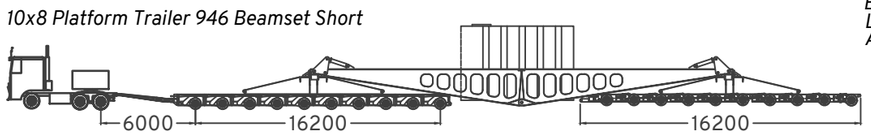
Appendix A

High Risk OSOM Route Assessment



OSOM Truck Specifications

10x8 Platform Trailer 946 Beamset Short



Overall Length	*56.633m*
Track width	*4.200m*
Beamset width	*5.740m*
Load Height	*4.250m*
Axle spacing	*1.800m*

OSOM Configuration calibrated against similar OSOM configurations and is based on information available at the time of assessment

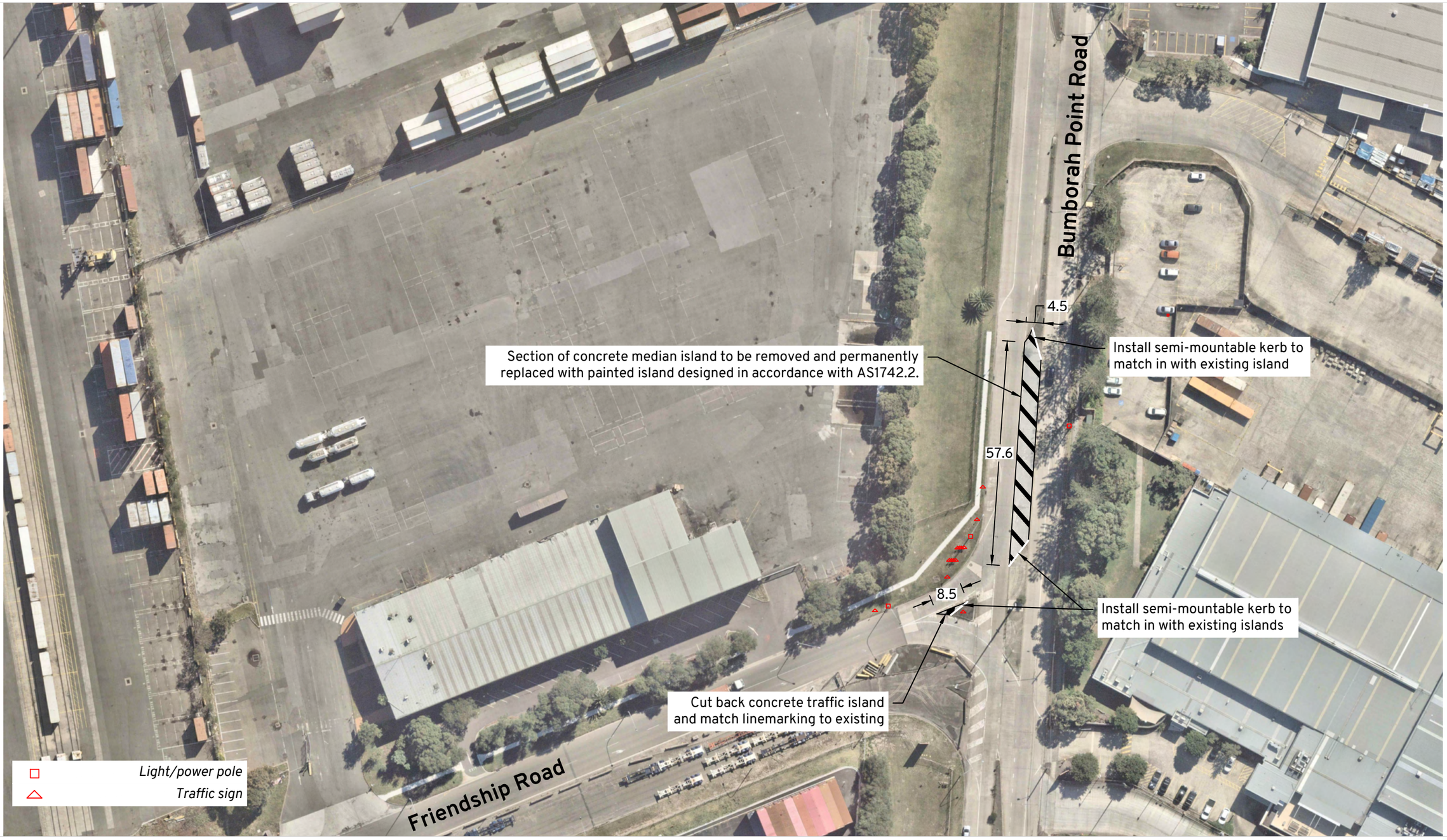
ROUTE ASSESSMENT

Brewongle Solar Farm

Overall Route Summary and OSOM Details

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: NTS

Amber i



Notes:

Linemarking shown indicatively - to be confirmed during detailed design.

Pavement to be constructed to standard of adjacent State Road and in accordance with *Austroads Guide to Pavement Technology Part 2: Pavement Structural Design* and *Austroads Guide to Road Design Part 3: Road Geometry*

Location:

Port Botany, NSW 2036

Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm

Strategic Design

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:1000

Amber D01

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Linemarking shown indicatively - to be confirmed during detailed design.

Location:

Port Botany, NSW 2036

Online Map Link

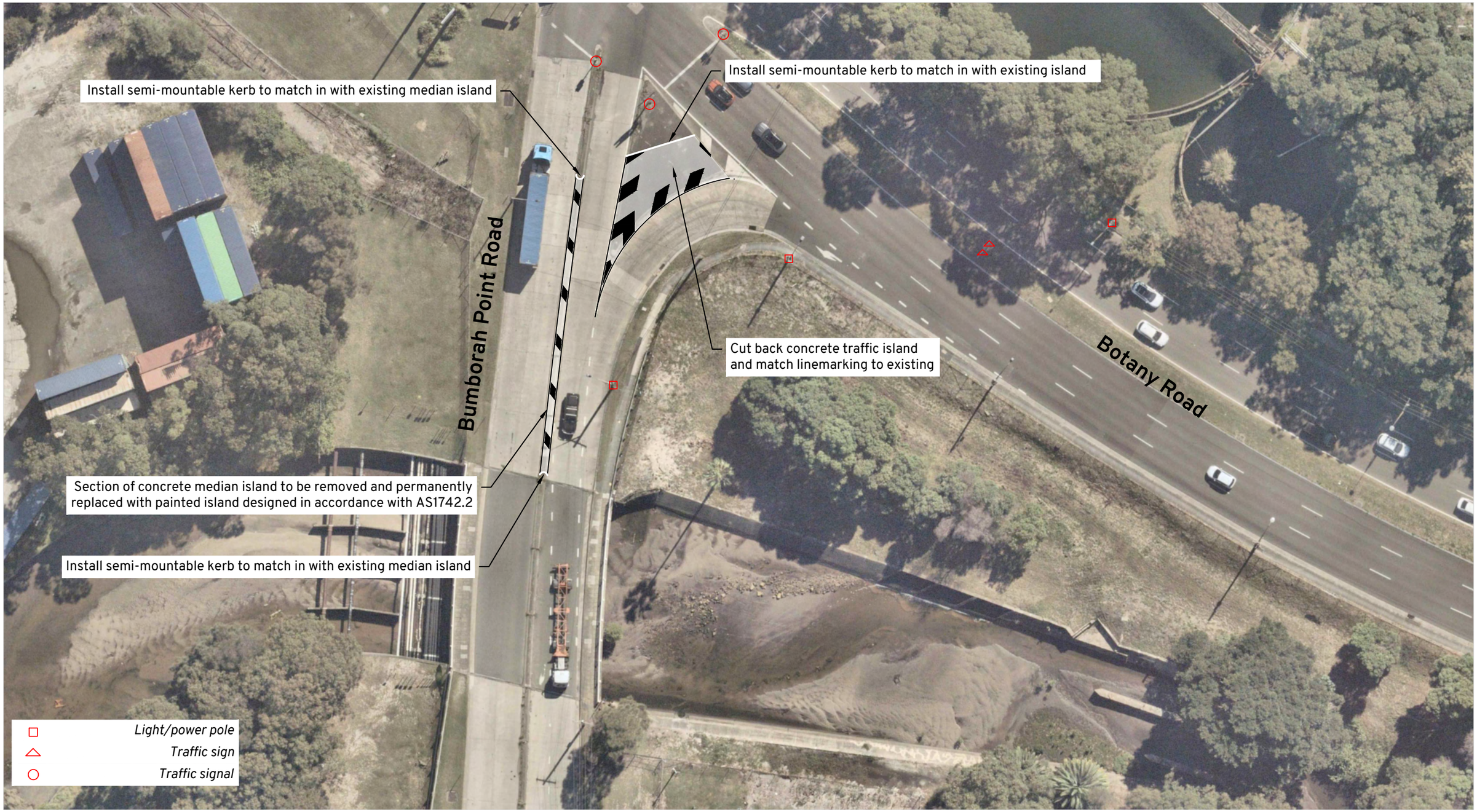
ROUTE ASSESSMENT

Brewongle Solar Farm

Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:1000

Amber S01



Notes:

Linemarking shown indicatively - to be confirmed during detailed design.

Pavement to be constructed to standard of adjacent State Road and in accordance with *Austroads Guide to Pavement Technology Part 2: Pavement Structural Design* and *Austroads Guide to Road Design Part 3: Road Geometry*

Location:

Port Botany/Matraville, NSW 2036

Online Map Link

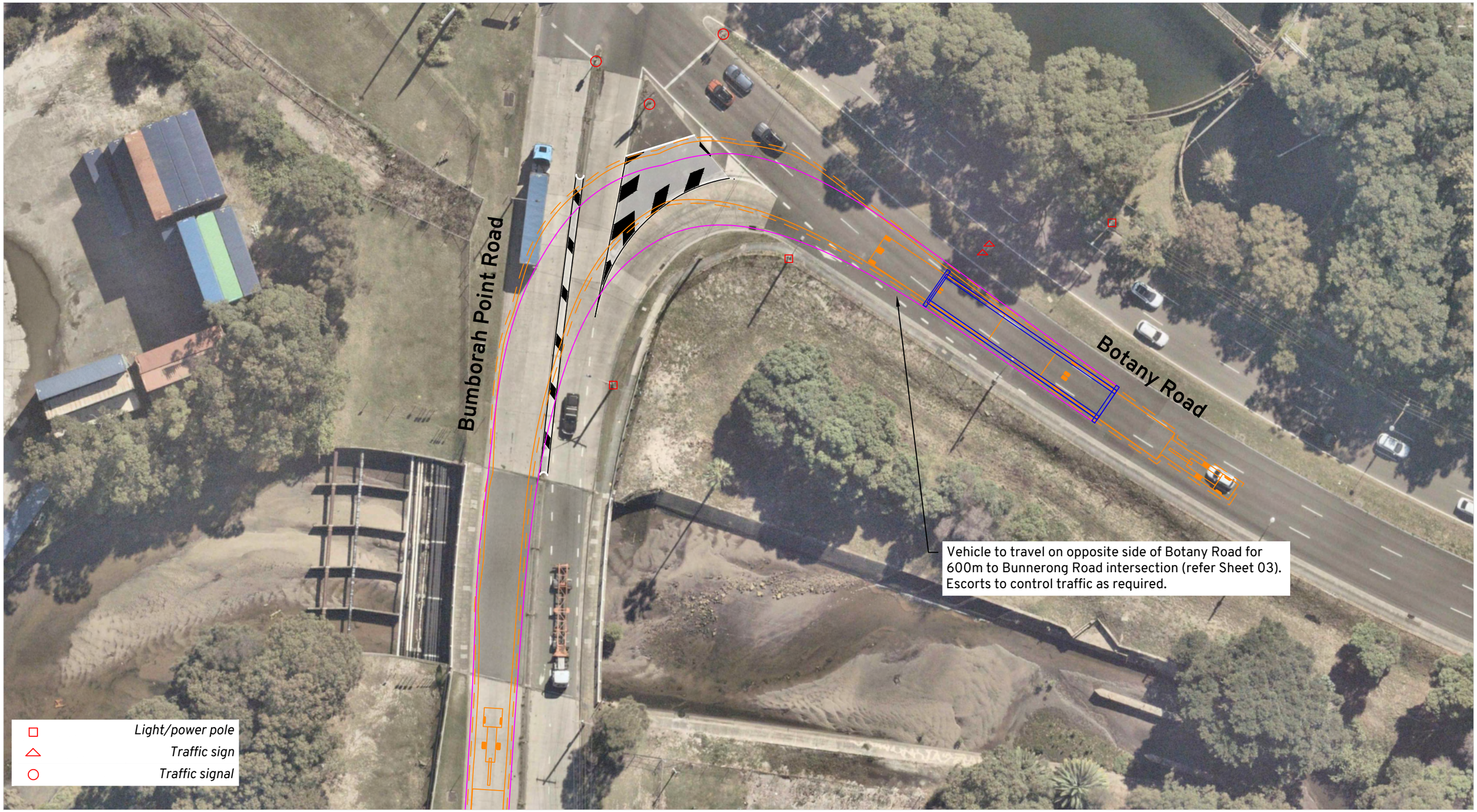
ROUTE ASSESSMENT

Brewongle Solar Farm

Strategic Design

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber D02



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Linemarking shown indicatively - to be confirmed during detailed design.

Location:

Port Botany/Matraville, NSW 2036

Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm

Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber S02

Notes:

Linemarking shown indicatively - to be confirmed during detailed design.

Pavement to be constructed to standard of adjacent State Road and in accordance with *Austroads Guide to Pavement Technology Part 2: Pavement Structural Design* and *Austroads Guide to Road Design Part 3: Road Geometry*

Location:

Matraville, NSW 2036

Online Map Link

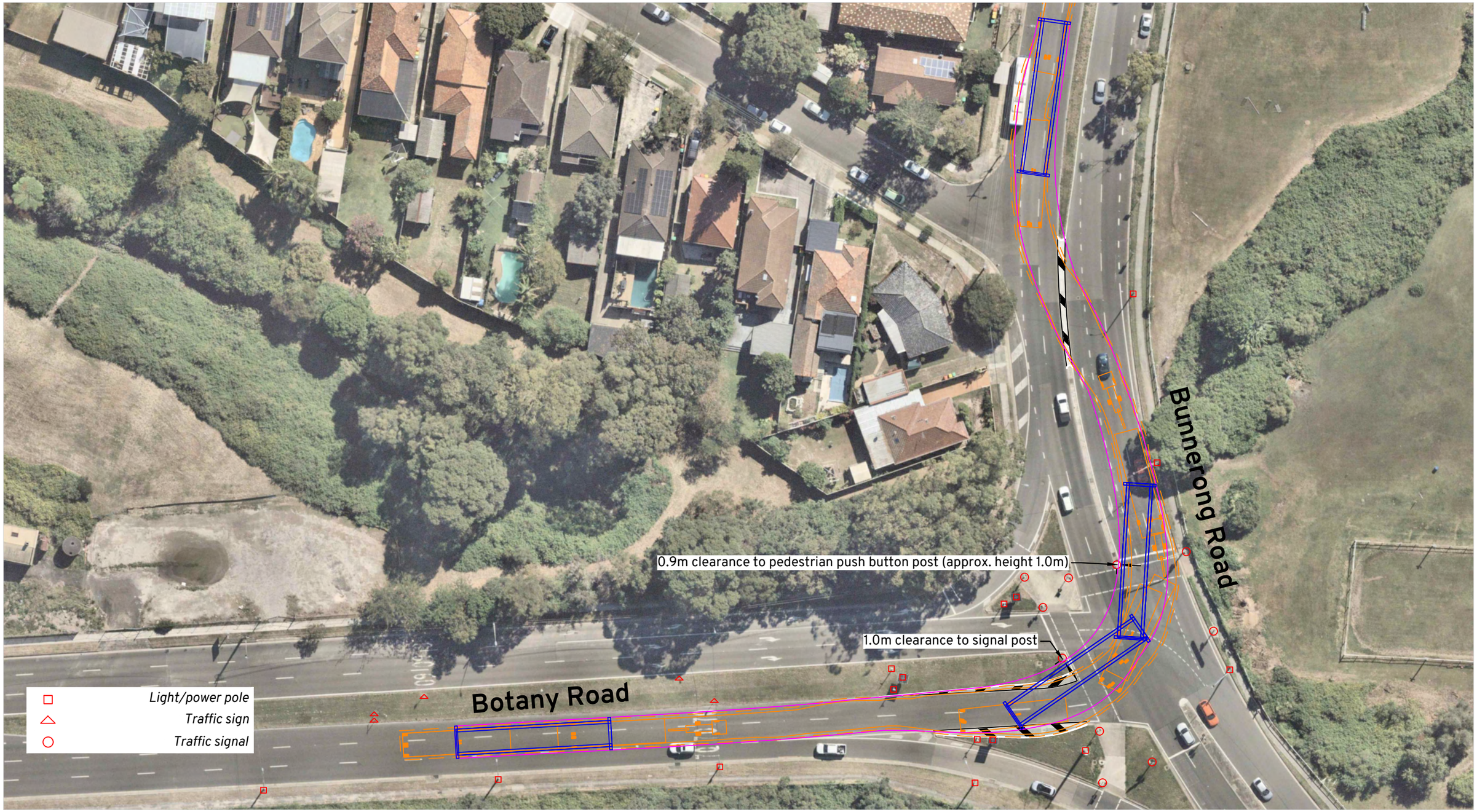
ROUTE ASSESSMENT

Brewongle Solar Farm

Strategic Design

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:750

Amber D03



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Linemarking shown indicatively - to be confirmed during detailed design.

Location:

Matraville, NSW 2036

Online Map Link

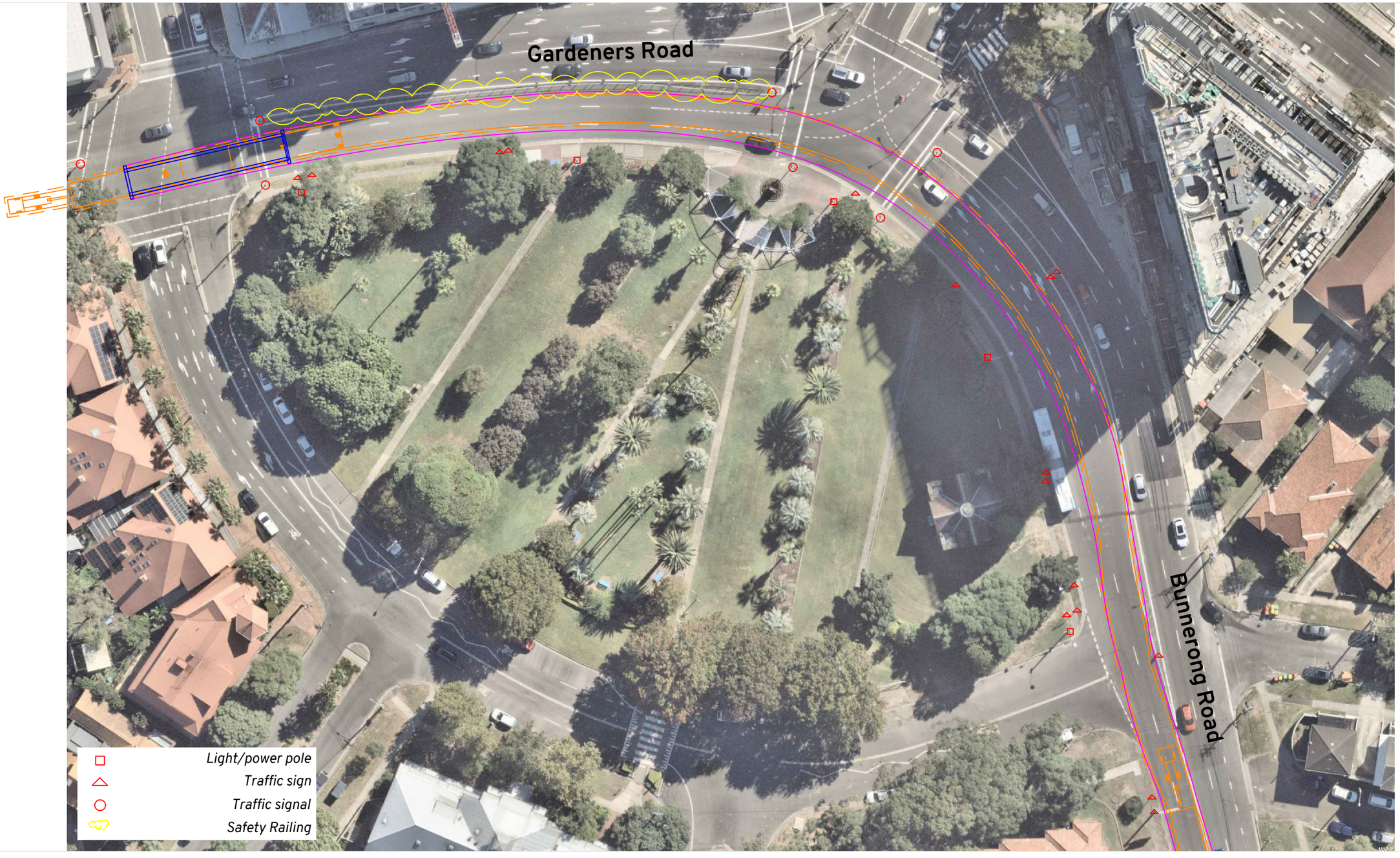
ROUTE ASSESSMENT

Brewongle Solar Farm

Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:750

Amber S03



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
All median kerbs are mountable.

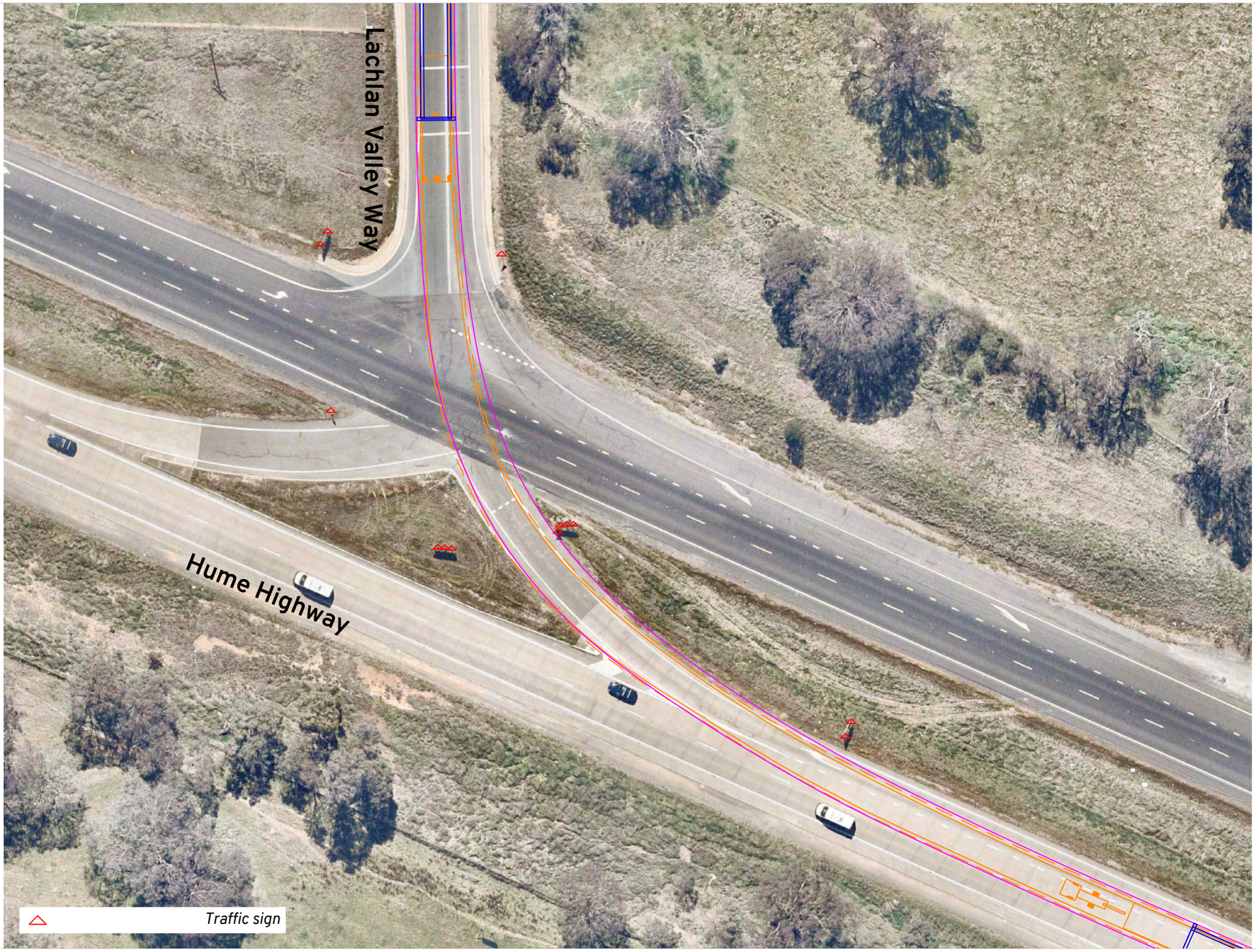
Location:
Daceyville, NSW 2032
Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:750

Amber



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

All kerbs are mountable.

Location:

Bowning, NSW 2582

Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm

Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:750

Amber 05

Notes:
Linemarking shown indicatively - to be confirmed during detailed design.

Pavement to be constructed to standard of adjacent State Road and in accordance with *Austroads Guide to Pavement Technology Part 2: Pavement Structural Design* and *Austroads Guide to Road Design Part 3: Road Geometry*

Location:
Boorowa, NSW 2586
Online Map Link

ROUTE ASSESSMENT
Brewongle Solar Farm
Strategic Design

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber D06a

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Linemarking shown indicatively - to be confirmed during detailed design.

Location:
Boorowa, NSW 2586
Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm

Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber S06a

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

All kerbs are not mountable.

Location:

Boorowa, NSW 2586

Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm

Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:750

Amber 06b

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:
Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Boorowa, NSW 2586
Online Map Link

ROUTE ASSESSMENT
Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:750

Amber 07

Notes:

Linemarking shown indicatively - to be confirmed during detailed design.

Pavement to be constructed to standard of adjacent State Road and in accordance with *Austroads Guide to Pavement Technology Part 2: Pavement Structural Design* and *Austroads Guide to Road Design Part 3: Road Geometry*

Location:
Cowra, NSW 2794
Online Map Link

ROUTE ASSESSMENT
Brewongle Solar Farm
Strategic Design

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber D08

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Linemarking shown indicatively - to be confirmed during detailed design.

Location:
Cowra, NSW 2794
Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber S08

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:
Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Cowra, NSW 2794
Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber 09

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:
Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Blayney, NSW 2799
Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber 10

Notes:

Linemarking shown indicatively - to be confirmed during detailed design.

Pavement to be constructed to standard of adjacent State Road and in accordance with *Austroads Guide to Pavement Technology Part 2: Pavement Structural Design* and *Austroads Guide to Road Design Part 3: Road Geometry*

Location:

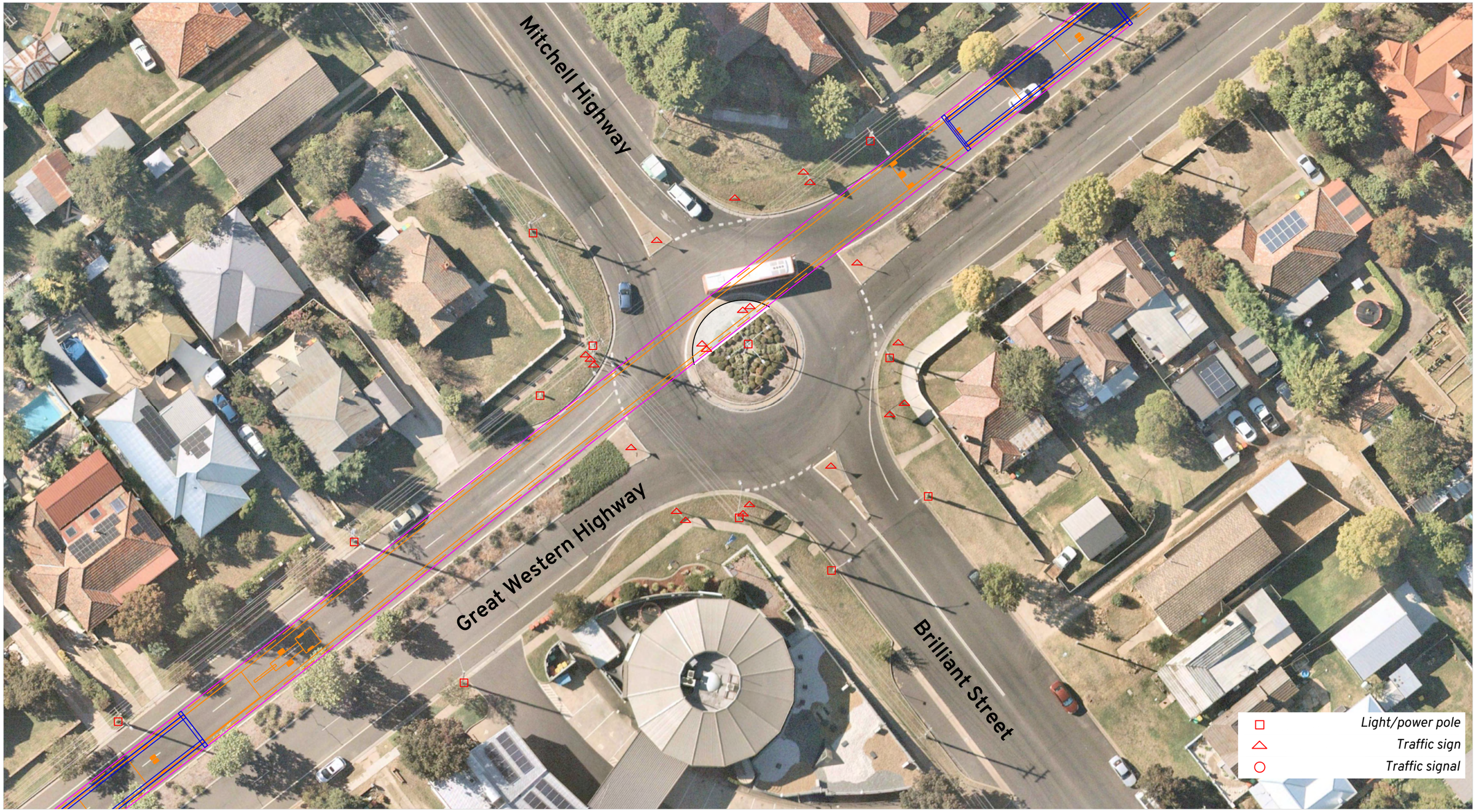
Bathurst, NSW 2795
https://maps.app.goo.gl/hFxbX8q1NcSK2VNDA

ROUTE ASSESSMENT

Brewongle Solar Farm
Strategic Design

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber D11



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Linemarking shown indicatively - to be confirmed during detailed design.

Location:

Bathurst, NSW 2795

https://maps.app.goo.gl/hFxbX8q1NcSK2VNDA

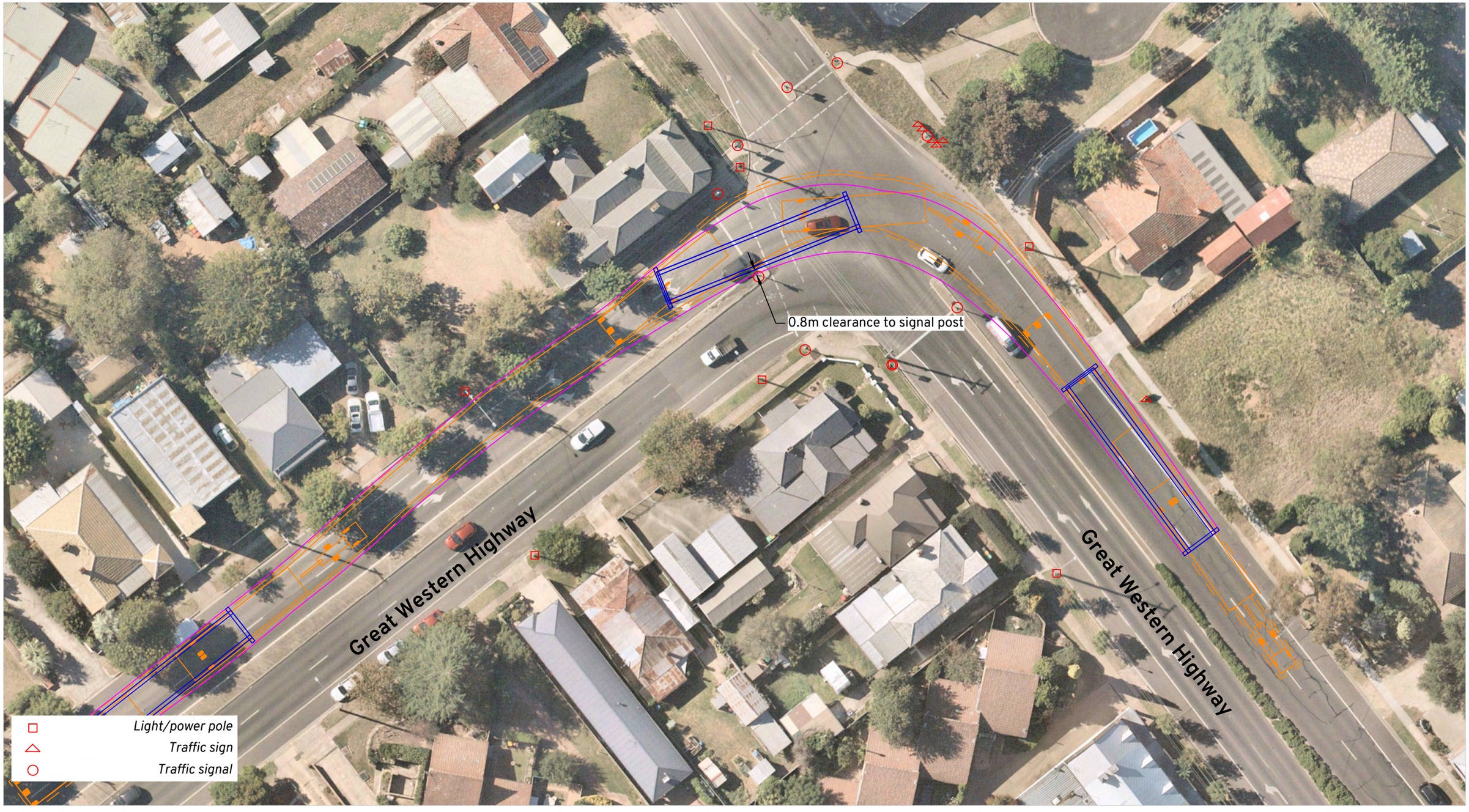
ROUTE ASSESSMENT

Brewongle Solar Farm

Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber S11



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

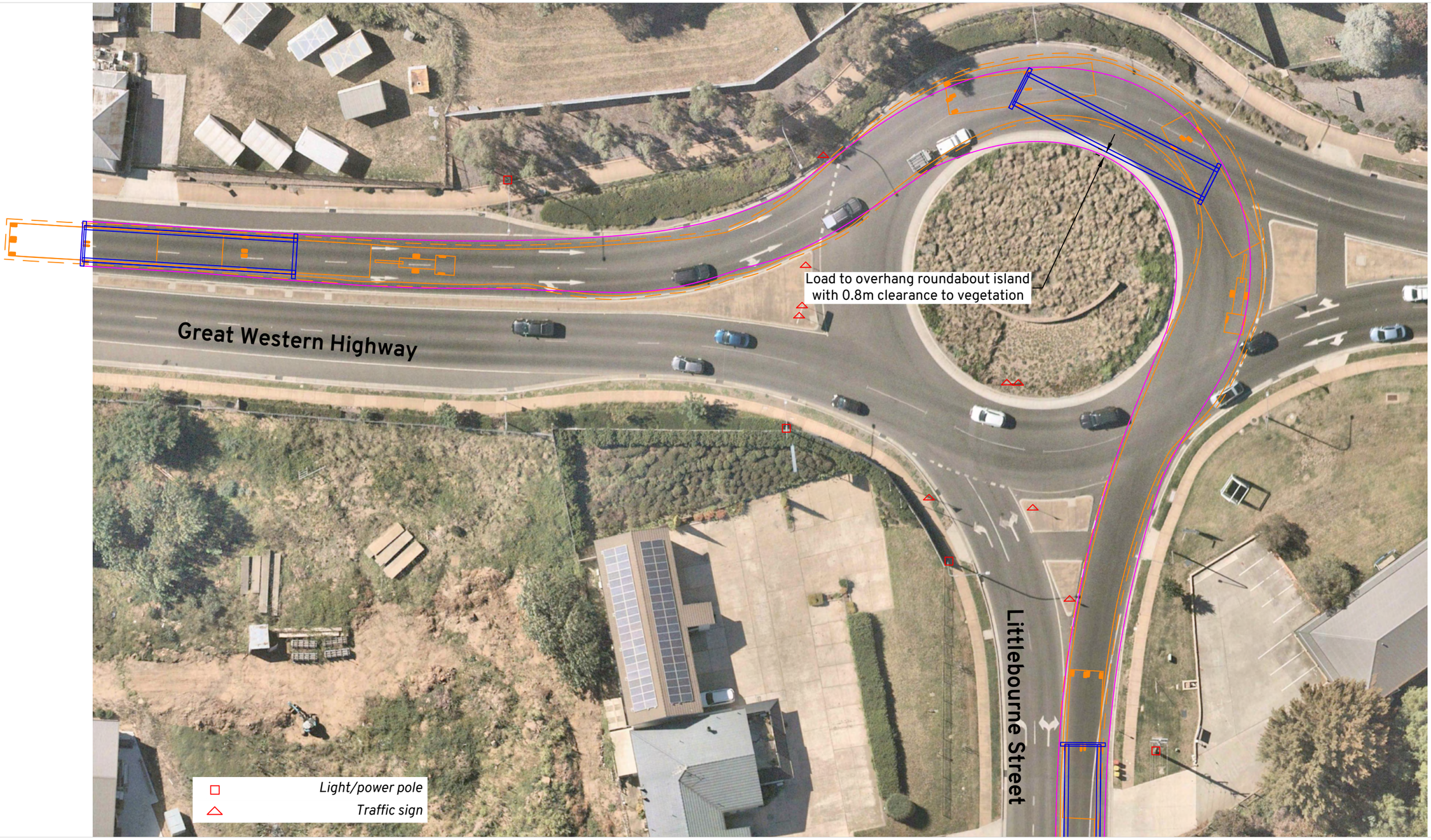
Location:
Bathurst, NSW 2795
Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber 12



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.

Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Only island kerbs are mountable.

Location:

Kelso, NSW 2795

Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm

Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

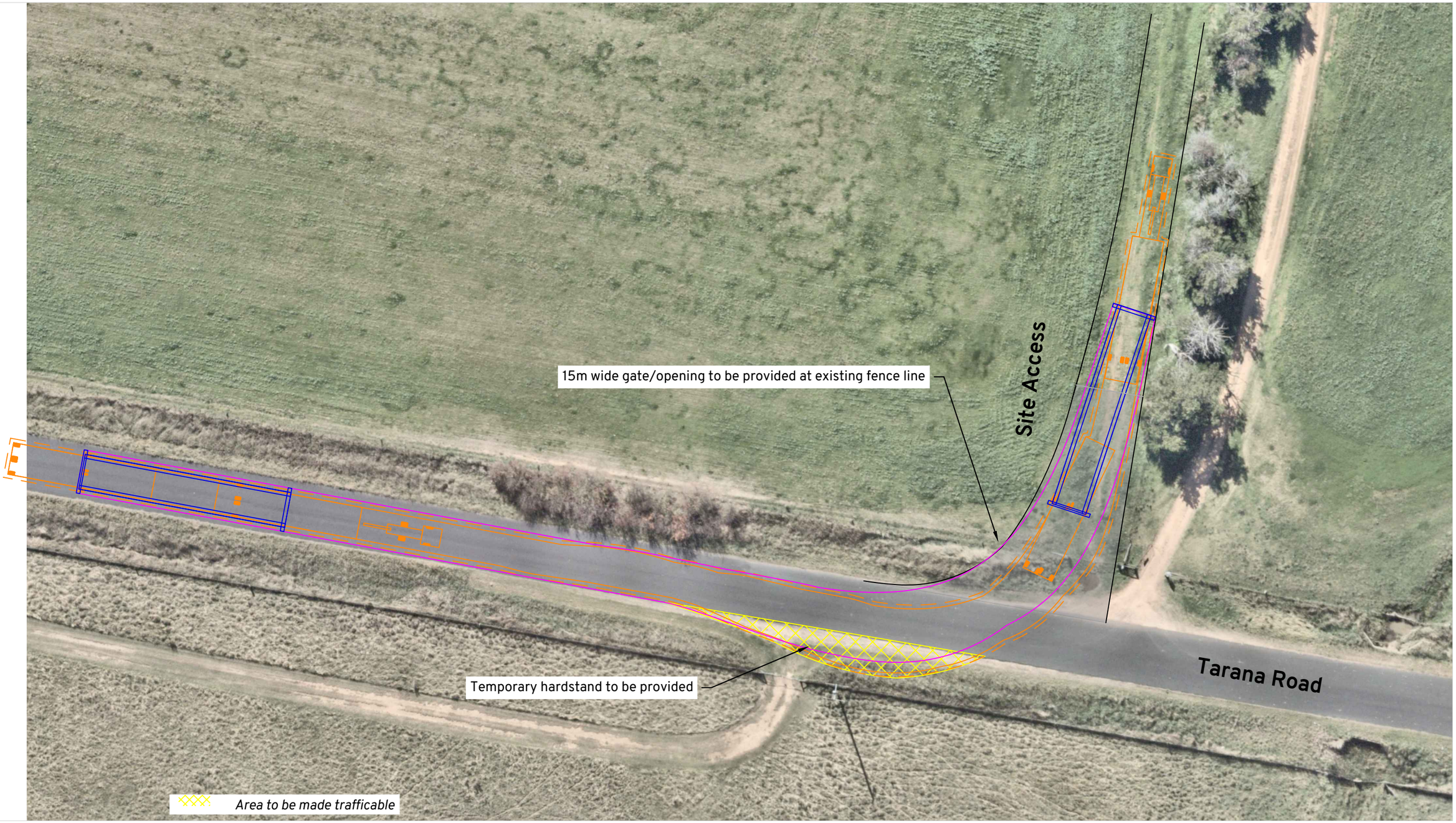
Location:
Brewongle, NSW 2795
Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber 14



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
Add hardstand as required to yellow highlighted areas.

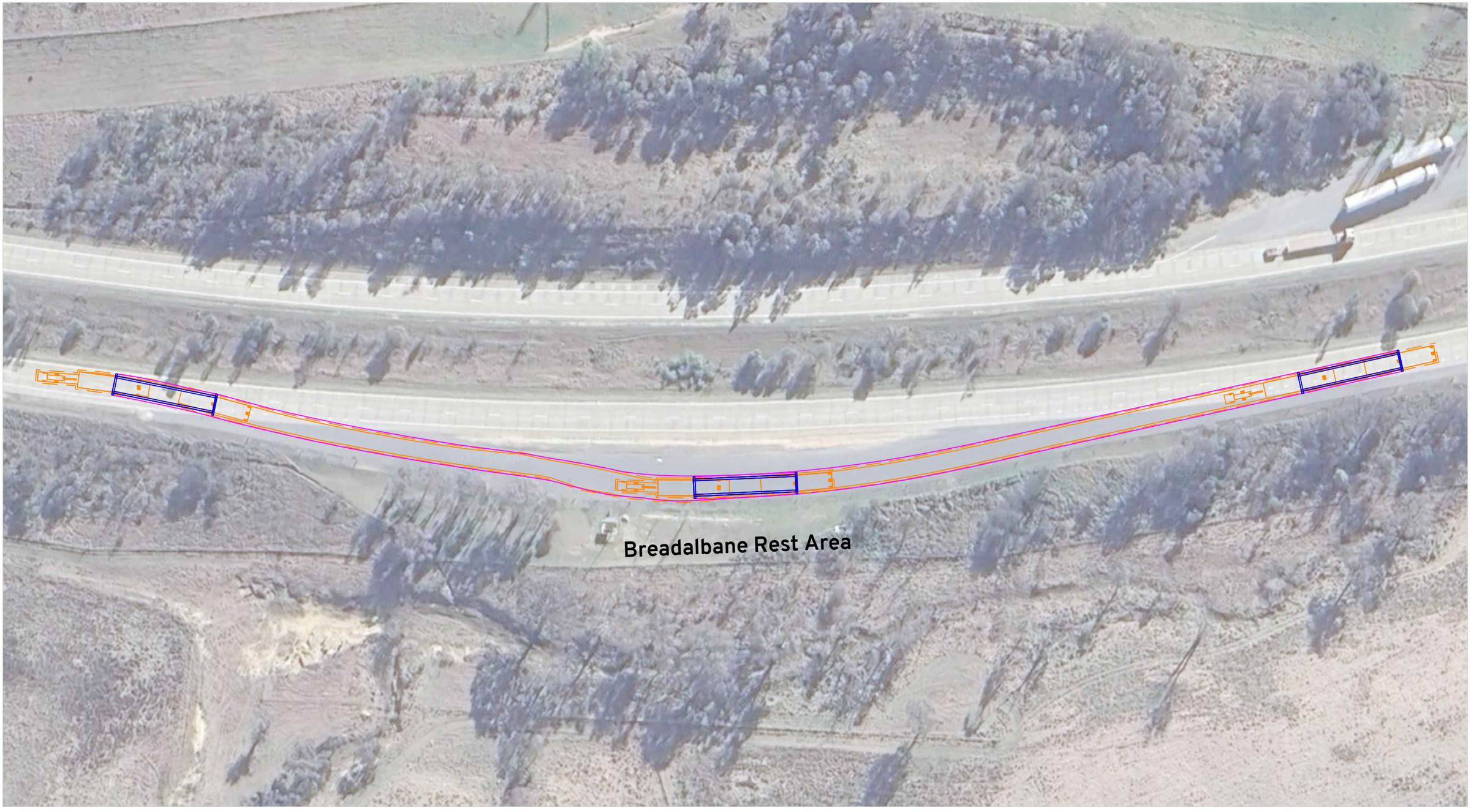
Location:
Brewongle, NSW 2795
Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:500

Amber 15



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Breadalbane, NSW 2795
Online Map Link

ROUTE ASSESSMENT

Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:1000

Amber R01

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Godfreys Creek, NSW 2795
Online Map Link

ROUTE ASSESSMENT
Brewongle Solar Farm
Swept Path Assessment

DRAWN: SE
DATE: 26/08/2025
DWG NO: 781 RA02D
SCALE at A3: 1:1000

Amber R02

Appendix B

Response to TfNSW Agency Advice

TfNSW Comment	Response
Identify the timeframe for the schedule of works (commencement year and completion year) overlapping timeframe of components during construction (to capture worst case scenario) and identify the construction hours for the project.	The proposed construction hours and project timeframe are provided within Section 3.2.
Detailed plans identifying the proposed location of any: – Project-related infrastructure within and outside of the project boundary. – Transmission line infrastructure, or any other project-related structures, within a road reserve. Include demarcation of local and classified road reserves. – Identify the key access roads with the classified road network required for the project (including any access required from classified road network for components being constructed outside of the project area) and justification of additional access required to a classified road in accordance with section 2.119 of State Environmental Planning Policy (Transport and Infrastructure) 2021. – The Scoping Report identifies that ancillary infrastructure and temporary facilities are to be provided on-site including (but not limited to) laydown areas. The TIA should identify the source for input materials and quantify the traffic generation associated with the haulage of the source materials.	Figure 1 shows the proposed layout of the site in relation to the road network, access locations and existing infrastructure. The proposed scope of the Project is outlined within Section 3.1 and it is noted that no external transmission line is proposed. An overview of the proposed vehicles and travel routes are provided within Sections 4, 5 and 6. Materials and equipment will generally be sourced from within Bathurst or the surrounding area where practicable, and the transport of these materials has been considered in the assessment.
Cumulative impacts: – An assessment should be undertaken as a part of the EIS and TIA to identify the projects that will have overlapping construction periods and assess the cumulative traffic impacts with emphasis on the following: – The cumulative impacts from traffic generated from the construction workforces in terms of the origin-destination routes, access, AM/PM peaks where there is overlap with other projects. – The cumulative impacts of heavy vehicle movements in terms of AM/PM peaks and routes where there is an overlap with other projects. – Cumulative impacts and consideration in relation to the timing of movements of OSOMs where other projects will be utilising the same routes as proposed for this development.	The assessment presented within Section 4.2.4 provides a review of the cumulative impacts of the Project along with other major Projects within the surrounding area. The assessment identifies some projects are expected to generate additional vehicle movements within the city of Bathurst. These vehicle movements would be distributed on the surrounding road network and are expected to have a minimal cumulative impact on the operation of the local road network. The review indicates that none of the assessed projects are expected to utilise O'Connell Road or Tarana Road as part of their designated routes for construction traffic. Accordingly, any cumulative traffic impacts with surrounding projects are expected to be minimal.

TfNSW Comment	Response
Heavy vehicle and OSOM routes: – Identify the return routes for OSOMs. – National Heavy Vehicle Regulator (NHVR) approved routes identified on the Restricted Access Maps (RAV MAP) are to be utilised for the heavy vehicle routes for the proposed development. – Further include details on the number of OSOM movements, the intended time for OSOM movements to occur, and GPS coordinates along the proposed routes for pinch points, traffic management measures and pull-over bays / rest areas along the OSOM routes. – Identifying road and rail projects occurring along the OSOM route within the anticipated schedule for the movement of the OSOM components. Inclusive of any impacts (e.g. civil works or obstructions) that could impede the movement of the OSOM components due to the concurrent road and rail projects occurring along the nominated OSOM route(s).	The haulage route for B-Doubles travelling from Port Botany is assessed within Section 5. It is anticipated that 3 high risk OSOM vehicles would be required to access the site during the construction period. The access route for high risk OSOM vehicles has been identified within a route assessment which identifies a number of road upgrades are required in order to allow the transport vehicles to successfully access the site. The vehicles would arrive outside of the peak periods and would be able to be accommodated on the road network subject to the road upgrades identified within the Route Assessment and the adoption of suitable road management strategies which would be confirmed as part of specific permits that would be applied for prior to construction. The Route Assessment is provided within Appendix A of this document and is discussed within Section 6.
Project schedule: – Hours and days of work, number of shifts and start and end times, – Phases and stages of the project, including construction, operation and decommissioning.	Details of the proposed hours of operation and staging are provided within Section 3.
Traffic volumes including: – Existing background traffic, – Project-related traffic for each phase or stage of the project, – Projected cumulative traffic at commencement of operation, and a 10-year horizon post-commencement.	Traffic data has been collected for O'Connell Road and Tarana Road as presented within Section 2.3. The project related traffic is presented within Section 4 of this report. The Project is expected to generate the maximum number of vehicle movements during construction, with a minimal level of traffic expected during operation. At the future 10-year scenario the site is expected to generate up to 8 vehicles per day associated with operation which is expected to have a minimal impact on the road network. The traffic assessment within this report has subsequently focused on the traffic impacts during construction when the majority of vehicle movements are generated.
Traffic characteristics including: – Number and ratio of heavy vehicles to light vehicles, – Peak times for existing traffic, – Peak times for project-related traffic including commuter periods, Note: If there is a reliance on shuttle buses/carpooling proposed to mitigate peak traffic volumes for the AM/PM peak of construction then the TIA is required to detail how the shuttle busing/carpooling commitment will be achieved through strategies, protocols, and the like. If carpooling and shuttle bus strategies cannot be supported by detailed methods/procedures that are achievable, enforceable, and practicable, then the shuttle bus/carpooling methods would not be viable and would require the TIA to be amended to assess the worst-case scenario during peak of construction.	The traffic volumes expected to be generated during construction are presented within Section 4.2.1 which identifies the various light and heavy vehicle movements and timing of movements. Shuttle buses would be used to transport workers to and from the Project Area from Bathurst. Further details and measures to ensure the shuttle bus program can be practically achieved and monitored will be included within the Construction Environmental Management Plan and/or TMP as outlined in Section 9.3.

TfNSW Comment	Response
– Proposed hours for transportation and haulage, project-related traffic, cumulative background traffic inclusive of other major projects that have coinciding timeframes and inclusion of the growth rate for background traffic for the peak construction period.	Section 4.2.3 identifies the distribution of the construction traffic and Sections 4.2.4 and 4.2.5 identify the potential traffic impacts of the project.
– Traffic count surveys should be undertaken for a minimum of one full day (preference seven days for improved accuracy of data). The traffic count survey is required to be collected outside of public holidays, events, and school holidays. The traffic counts should be collected at each key intersections with the state classified road network forming part of the construction routes and must be collected in accordance with Part 3 of Austroads Guide to Road Design. The data (i.e. tube counts) obtained from the traffic count survey should be provided as an appendix to the TIA for the project and used to inform the background traffic counts within the base case (existing background) scenario.	Traffic data has been collected for O'Connell Road and Tarana Road as presented within Section 2.3 with the data provided in Appendix C.
– Provide a breakdown of the calculations and assumptions for light vehicles, heavy vehicles requiring escort, heavy vehicles and heavy vehicles requiring NHVR permit and that are exempt from the escort requirements. All these vehicle types should be factored into the traffic generation during AM/PM peaks for the project. – Specify the design vehicles for the project (identifying the relevant types of heavy / OSOM / specialist vehicles and shuttle buses).	A breakdown of light and heavy vehicles is provided within Section 4 and the various high risk OSOM vehicles are assessed within Section 6.
– Interactions between existing and project-related traffic. cumulative background traffic inclusive of other major projects that have coinciding timeframes and inclusion of the growth rate for background traffic for the peak construction period.	The assessment presented within Section 4.2.4 provides a review of the cumulative impacts of the Project along with other major Projects within the surrounding area. The traffic assessment has considered an annual compounding growth rate of 1.5% for background traffic.
– The AM/PM peaks are required to be measured based on a single trip from origin to destination as a one-way vehicular movement from one point to another excluding the return journey.	The morning and evening peak periods have been assessed as one-way vehicle movements.
Capacity analysis using SIDRA or other relevant application, to identify an acceptable Level of Service (LOS) at intersections with the classified (State) road, and where relevant, analysis of any other intersections along the proposed transport route/s.	A SIDRA traffic modelling exercise has been undertaken at the intersection of O'Connell Road and Tarana Road as outlined in Section 4.2.5. The assessment indicates the intersection is able to accommodate the Project traffic and is expected to continue to operate with a good level of service.
The origins, destinations and routes for: – Commuter (employee and contractor) light vehicles and pool vehicles, – Heavy (haulage) vehicles, – OSOM vehicles.	Section 4.2.3 identifies the distribution of the commuter and construction traffic. Section 5 outlines the proposed heavy vehicle routes from Port Botany while Section 6 provides an assessment of the high risk OSOM travel route.

TfNSW Comment	Response
Road safety assessment of key haulage route/s. – Where road safety concerns are identified at a specific location along the proposed haulage routes, TfNSW suggests that the TIA be supported by a targeted Road Safety Audit undertaken by suitably qualified persons in accordance with the Austroads Guidelines.	A review of the existing road safety data and casualty crash history is provided within Section 2.6 which indicates that the road network is operating in a relatively safe manner. A TMP is to be developed prior to construction of the Project which should include the recommendations provided within this document. The adoption of the mitigation measures outlined within the TMP would ensure construction traffic has a minimal impact to the capacity and safety of the surrounding road network. Heavy vehicles should avoid travel during peak bus operating times to limit the interaction of larger vehicles and vulnerable road users. In addition to the traffic management measures, it is proposed to provide road upgrades which are to be constructed prior to construction commencing. Construction traffic is expected to be able to safely access the site with the inclusion of the traffic management measures and road upgrades.
Identify the necessary road network infrastructure upgrades that are required to cater for and mitigate the impact of project related traffic on both the local and classified road network for the development (for instance, road widening and/or intersection treatments). In this regard, preliminary concept drawings should be submitted with the SSD application for any identified road infrastructure upgrades. It should be noted that any identified road infrastructure upgrades will need to be to the satisfaction of TfNSW and Council.	An overview of the required road upgrades is provided in Section 10.1. The turn treatments and available sight distance at all locations comply with the requirements of the Austroads Guide subject to removal of roadside vegetation along Tarana Road which is proposed to occur prior to the commencement of the construction phase of the Project.
Proposed road facilities, access and intersection treatments are to be identified and be in accordance with Austroads Guide to Road Design: –Austroads Guide to Traffic Management Part 6- turn warrants assessment based on background traffic volumes, plus growth rate, plus the cumulative traffic volumes for the project and any coinciding projects. The turn warrants should be plotted on the corresponding turn warrants figure (reference Part 3 and Part 4 of Austroads Guide to Road Design Note: Speed zone reductions are not supported as a measure for managing the construction traffic during the construction period. Temporary speed zone reductions are reserved only for road works and work within the road reserve.	An assessment of the turn treatments at the nearest State Road intersection is provided in Section 7.1 in accordance with the Austroads Guide. No speed zone reductions are proposed.
Proposed road facilities, access and intersection treatments are to be identified and be in accordance with Austroads Guide to Road Design including provision of Safe Intersection Sight Distance (SISD) in accordance with Part 4A, TfNSW supplements to Austroads Part 3, based on the accurate design speed (posted speed zone +10km/hr) and reaction time. Measures are required to be identified to ensure SISD is achieved in accordance with Austroads and TfNSW supplements. TfNSW requires compliance with SISD.	An assessment of the SISD has been carried out for the site access as well as the O'Connell Road / Tarana Road intersection. Both locations are provided with adequate sight distance subject to removal of roadside vegetation along Tarana Road which is proposed to occur prior to the commencement of the construction phase of the Project.

TfNSW Comment	Response
Consideration of the local climate conditions that may affect road safety during the life of the project (e.g. fog, wet and dry weather, icy road conditions).	Recommendations have been provided for inclusion within the TMP which address the proposed operation measures during local climate events.
The layout of the internal road network, parking facilities and infrastructure.	The site layout is shown within Figure 1.
Impact on rail corridors and level crossings detailing any proposed interface treatments.	A review of the rail impacts is provided in Section 6.3.3.
Impact on public transport (public and school bus routes) and consideration for alternative transport modes such as carpooling and shuttle buses during construction.	It is recommended that heavy vehicle movements avoid peak school bus times to limit the interaction of larger vehicles and vulnerable road users. Buses operate along O'Connell Road and Tarana Road as outlined in Section 2.4. Shuttle buses would be used to transport workers to and from the Project Area from Bathurst. The Applicant has also advised that the workforce would be encouraged to carpool to reduce the number of light vehicles travelling to/from the site.
Identification and assessment of potential environmental impacts of the project, such as blasting, lighting, visual, noise, dust and drainage on the function and integrity of all affected public roads.	Environmental impacts have been assessed by others as part of the Environmental Impact Statement.
Emergency access to a State classified road • Must identify how the access will be managed (i.e. gates) to prevent the use of the access for other vehicles associated with the development during peak of construction and operation. • Identify the emergency design vehicle and provide a swept path analysis identifying concurrent movements can occur into and out of the access. Provision of sufficient storage at the throat of the access to allow for the emergency vehicle to store within the access and not within the through lane or shoulder. • Provide a strategic design of the emergency access. • Identify compliance with SISD for the design speed (posted speed+10km/hr) in accordance with Austroads Guide to Road Design Part 3	No emergency access locations are proposed to a State classified road.
Access points or access tracks required for Electricity Transmission Lines (ETLs) or other infrastructure. • Access points or access tracks required for ETLs or other infrastructure will require the same level of assessment as the primary project access point and will need to address the matters outlined within this letter for this type of access with the state classified road. Strategic designs and swept path analysis will be required for these types of accesses.	No external transmission lines or infrastructure are proposed as part of the Project.

Appendix C

Traffic Survey Data

TRANS TRAFFIC SURVEY

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TURNING MOVEMENT SURVEY

Intersection of O'Connell Rd and Tarana Rd, Brewongle

GPS *-33.471410, 149.656922*

Date:	Thu 07/03/24
Weather:	Fine
Suburban:	Brewongle
Customer:	Amber

North:	O'Connell Rd
East:	Tarana Rd
South:	O'Connell Rd
West:	N/A

Survey Period	AM:	6:00 AM-9:00 AM
	PM:	4:00 PM-7:00 PM
Traffic Peak	AM:	7:45 AM-8:45 AM
	PM:	4:15 PM-5:15 PM

All Vehicles

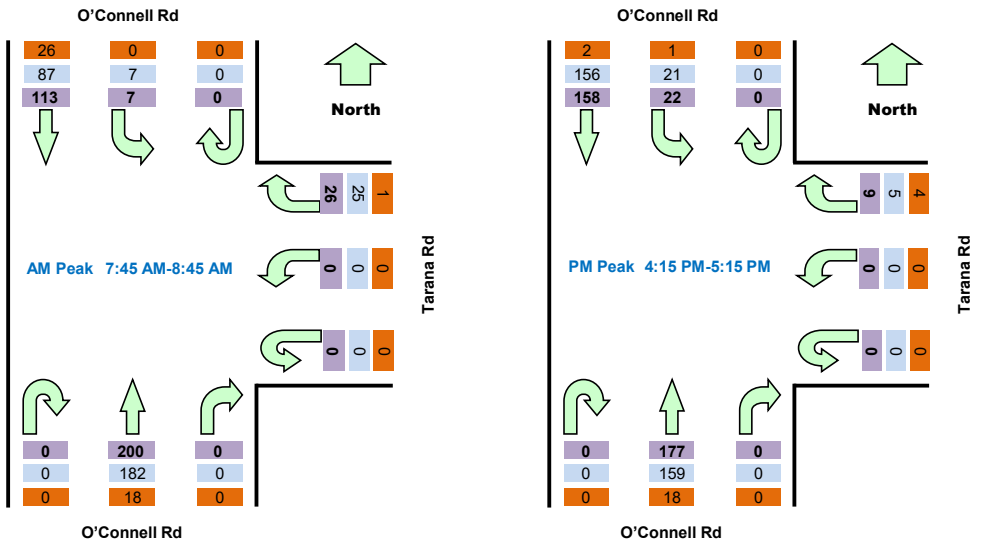
Time		North Approach O'Connell Rd			East Approach Tarana Rd			South Approach O'Connell Rd			Hourly Total	
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
6:00	6:15	0	22	0	0	0	0	0	0	14	191	
6:15	6:30	0	24	0	0	3	0	0	0	18	213	
6:30	6:45	0	22	2	0	1	0	0	0	28	234	
6:45	7:00	0	21	3	0	1	0	0	0	32	247	
7:00	7:15	0	31	1	0	1	0	0	0	25	276	
7:15	7:30	0	29	1	0	4	1	0	0	31	302	
7:30	7:45	0	22	2	0	4	0	0	1	37	317	
7:45	8:00	0	35	2	0	5	0	0	0	44	346	Peak
8:00	8:15	0	25	0	0	10	0	0	0	49	326	
8:15	8:30	0	24	4	0	3	0	0	0	50		
8:30	8:45	0	29	1	0	8	0	0	0	57		
8:45	9:00	0	24	0	0	5	0	0	1	36		
16:00	16:15	1	34	6	0	2	0	0	1	38	361	
16:15	16:30	0	46	4	0	3	0	0	0	41	366	Peak
16:30	16:45	0	32	8	0	2	0	0	0	45	352	
16:45	17:00	0	35	5	0	4	0	0	0	54	345	
17:00	17:15	0	45	5	0	0	0	0	0	37	310	
17:15	17:30	0	44	6	0	3	0	0	0	27	284	
17:30	17:45	0	39	4	0	0	0	0	0	37	257	
17:45	18:00	0	34	3	0	3	0	0	0	23	216	
18:00	18:15	0	40	2	0	0	0	0	0	19	198	
18:15	18:30	0	27	2	0	3	0	0	0	21		
18:30	18:45	0	22	1	0	1	0	0	0	15		
18:45	19:00	0	25	5	0	1	1	0	0	13		

Peak Time		North Approach O'Connell Rd			East Approach Tarana Rd			South Approach O'Connell Rd			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
7:45	8:45	0	113	7	0	26	0	0	0	200	346
16:15	17:15	0	158	22	0	9	0	0	0	177	366

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		North Approach O'Connell Rd			East Approach Tarana Rd			South Approach O'Connell Rd		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
6:00	6:15	0	16	0	0	0	0	0	0	10
6:15	6:30	0	19	0	0	2	0	0	0	16
6:30	6:45	0	14	1	0	1	0	0	0	24
6:45	7:00	0	17	2	0	1	0	0	0	31
7:00	7:15	0	21	1	0	1	0	0	0	18
7:15	7:30	0	23	0	0	4	1	0	0	30
7:30	7:45	0	17	2	0	4	0	0	1	35
7:45	8:00	0	23	2	0	5	0	0	0	39
8:00	8:15	0	22	0	0	9	0	0	0	44
8:15	8:30	0	21	4	0	3	0	0	0	46
8:30	8:45	0	21	1	0	8	0	0	0	53
8:45	9:00	0	18	0	0	5	0	0	1	35
16:00	16:15	1	33	5	0	1	0	0	1	34
16:15	16:30	0	45	4	0	1	0	0	0	35
16:30	16:45	0	31	8	0	1	0	0	0	38
16:45	17:00	0	35	5	0	3	0	0	0	51
17:00	17:15	0	45	4	0	0	0	0	0	35
17:15	17:30	0	41	6	0	3	0	0	0	25
17:30	17:45	0	37	4	0	0	0	0	0	35
17:45	18:00	0	34	3	0	3	0	0	0	21
18:00	18:15	0	35	2	0	0	0	0	0	18
18:15	18:30	0	26	2	0	3	0	0	0	18
18:30	18:45	0	20	1	0	1	0	0	0	14
18:45	19:00	0	25	5	0	1	1	0	0	10

Peak Time		North Approach O'Connell Rd			East Approach Tarana Rd			South Approach O'Connell Rd			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
7:45	8:45	0	87	7	0	25	0	0	0	182	301
16:15	17:15	0	156	21	0	5	0	0	0	159	341

Heavy Vehicles

Time		North Approach O'Connell Rd			East Approach Tarana Rd			South Approach O'Connell Rd		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
6:00	6:15	0	6	0	0	0	0	0	0	4
6:15	6:30	0	5	0	0	1	0	0	0	2
6:30	6:45	0	8	1	0	0	0	0	0	4
6:45	7:00	0	4	1	0	0	0	0	0	1
7:00	7:15	0	10	0	0	0	0	0	0	7
7:15	7:30	0	6	1	0	0	0	0	0	1
7:30	7:45	0	5	0	0	0	0	0	0	2
7:45	8:00	0	12	0	0	0	0	0	0	5
8:00	8:15	0	3	0	0	1	0	0	0	5
8:15	8:30	0	3	0	0	0	0	0	0	4
8:30	8:45	0	8	0	0	0	0	0	0	4
8:45	9:00	0	6	0	0	0	0	0	0	1
16:00	16:15	0	1	1	0	1	0	0	0	4
16:15	16:30	0	1	0	0	2	0	0	0	6
16:30	16:45	0	1	0	0	1	0	0	0	7
16:45	17:00	0	0	0	0	1	0	0	0	3
17:00	17:15	0	0	1	0	0	0	0	0	2
17:15	17:30	0	3	0	0	0	0	0	0	2
17:30	17:45	0	2	0	0	0	0	0	0	2
17:45	18:00	0	0	0	0	0	0	0	0	2
18:00	18:15	0	5	0	0	0	0	0	0	1
18:15	18:30	0	1	0	0	0	0	0	0	3
18:30	18:45	0	2	0	0	0	0	0	0	1
18:45	19:00	0	0	0	0	0	0	0	0	3

Peak Time		North Approach O'Connell Rd			East Approach Tarana Rd			South Approach O'Connell Rd			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
7:45	8:45	0	26	0	0	1	0	0	0	18	45
16:15	17:15	0	2	1	0	4	0	0	0	18	25

TRANS TRAFFIC SURVEY

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T. 1300 82 88 82 - F. 1300 83 88 83 - E. traffic@trafficsurvey.com.au - W. www.trafficsurvey.com.au

AUTOMATIC COUNT SUMMARY

Street Name :	Tarana Rd	**Location :**	East o f Wests Ln
Suburb :	Brewongle	**Start Date :**	00:00 Wed 06/March/2024
Machine ID:	2329AT27	**Finish Date :**	00:00 Wed 13/March/2024
Site ID:	3017	**Speed Zone :**	100 km/h
Prepared By :	Vo Son Binh	**Email:**	binh@trafficsurvey.com.au

GPS information		Lat 33° 28' 28.74 South Long 149° 40' 41.64 East	Direction of Travel		
			Both directions	**Westbound**	**Eastbound**
Traffic Volume :		Weekdays Average	270	133	137
(Vehicles/Day)		7 Day Average	251	124	127
Weekday	**AM**	08:00	25	20	5
Peak hour start	**PM**	16:00	29	11	18
Speeds :		85th Percentile	94.8	97.2	94.7
(Km/Hr)		Average	86.1	87.6	86.0
Classification % :		Light Vehicles up to 5.5m	90.2%	91.1%	91.4%

Location

GPS Information	Load Google Map (internet required)
(Latitude, Longitude)	-33.474649, 149.678232

Speed Data	Speed Graph	Speed Bin
Volume Data	Volume Graph	Classification

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001

SAFETY SYSTEM CERTIFICATION DNV·GL AS/NZS 4801

ENVIRONMENTAL SYSTEM CERTIFICATION DNV·GL ISO 14001

QUALITY ASSURED COMPANY BY ISO 9001:2015
OH&S SYSTEM CERTIFIED TO ISO 4801:2001
ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015

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Site Tarana Rd

Direction Westbound

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Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
Date	11/03/2024	12/03/2024	6/03/2024	7/03/2024	8/03/2024	9/03/2024	10/03/2024	Total	Average	Total	Average	Total	Average
AM Peak	08:00	08:00	08:00	08:00	07:00	08:00	09:00	N/A	08:00	N/A	08:00	N/A	09:00
PM Peak	16:00	17:00	14:00	12:00	12:00	17:00	16:00	N/A	16:00	N/A	14:00	N/A	16:00
00:00	0	0	0	0	0	0	3	3	0	0	0	3	2
01:00	0	0	1	0	0	0	0	1	0	1	0	0	0
02:00	0	0	0	0	0	1	0	1	0	0	0	1	1
03:00	0	1	1	0	0	0	0	2	0	2	0	0	0
04:00	0	0	0	1	0	1	1	3	0	1	0	2	1
05:00	1	2	3	4	2	1	0	13	2	12	2	1	1
06:00	6	14	10	5	8	2	0	45	6	43	9	2	1
07:00	6	13	13	13	14	2	1	62	9	59	12	3	2
08:00	21	22	22	20	14	14	2	115	16	99	20	16	8
09:00	11	8	9	7	8	11	15	69	10	43	9	26	13
10:00	12	9	11	12	12	13	11	80	11	56	11	24	12
11:00	9	7	2	4	9	10	7	48	7	31	6	17	9
12:00	5	3	11	14	15	8	4	60	9	48	10	12	6
13:00	7	7	10	7	10	5	7	53	8	41	8	12	6
14:00	5	7	17	11	14	3	5	62	9	54	11	8	4
15:00	2	4	3	9	9	8	5	40	6	27	5	13	7
16:00	10	13	14	10	10	10	8	75	11	57	11	18	9
17:00	5	14	7	5	5	12	6	54	8	36	7	18	9
18:00	7	2	6	4	8	3	4	34	5	27	5	7	4
19:00	4	4	4	6	4	3	3	28	4	22	4	6	3
20:00	3	1	1	1	4	2	1	13	2	10	2	3	2
21:00	0	1	1	0	1	1	2	6	1	3	1	3	2
22:00	0	0	0	1	0	2	0	3	0	1	0	2	1
23:00	0	0	0	1	0	1	0	2	0	1	0	1	1
Total	114	132	146	135	147	113	85	872	124	674	133	198	104
% Heavy	11.40%	7.58%	9.59%	13.33%	10.88%	6.19%	7.06%	9.63%		10.53%		6.57%	

TRANS TRAFFIC SURVEY
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Site Tarana Rd

Direction Eastbound

Back to Site Summary Page

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
Date	11/03/2024	12/03/2024	6/03/2024	7/03/2024	8/03/2024	9/03/2024	10/03/2024	Total	Average	Total	Average	Total	Average
AM Peak	11:00	09:00	09:00	11:00	10:00	10:00	11:00	N/A	11:00	N/A	11:00	N/A	11:00
PM Peak	17:00	17:00	17:00	16:00	16:00	14:00	13:00	N/A	16:00	N/A	17:00	N/A	13:00
00:00	0	1	0	0	0	0	2	3	0	1	0	2	1
01:00	0	0	0	0	0	1	0	1	0	0	0	1	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	1	0	1	0	0	0
04:00	0	0	0	0	0	2	1	3	0	0	0	3	2
05:00	1	1	0	1	0	0	0	3	0	3	1	0	0
06:00	4	7	5	5	6	1	0	28	4	27	5	1	1
07:00	5	6	5	4	5	2	4	31	4	25	5	6	3
08:00	5	5	8	4	3	2	6	33	5	25	5	8	4
09:00	8	11	12	7	7	10	2	57	8	45	9	12	6
10:00	8	10	4	12	10	11	5	60	9	44	9	16	8
11:00	9	7	7	15	10	11	8	67	10	48	10	19	10
12:00	10	6	7	9	13	8	9	62	9	45	9	17	9
13:00	7	9	10	6	7	14	13	66	9	39	8	27	14
14:00	4	7	5	14	11	18	10	69	10	41	8	28	14
15:00	5	11	6	10	13	8	4	57	8	45	9	12	6
16:00	13	16	18	22	19	9	6	103	15	88	18	15	8
17:00	17	19	28	15	16	6	3	104	15	95	19	9	5
18:00	8	7	7	10	14	10	3	59	8	46	9	13	7
19:00	7	9	3	6	5	2	4	36	5	30	6	6	3
20:00	1	3	2	3	3	4	3	19	3	12	2	7	4
21:00	4	0	6	3	3	4	2	22	3	16	3	6	3
22:00	0	0	0	0	3	3	1	7	1	3	1	4	2
23:00	0	1	0	1	4	1	0	7	1	6	1	1	1
Total	116	136	134	147	152	127	86	898	127	685	137	213	112
% Heavy	12.93%	8.82%	11.19%	11.56%	9.87%	2.36%	3.49%	8.91%		10.80%		2.82%	

Appendix D

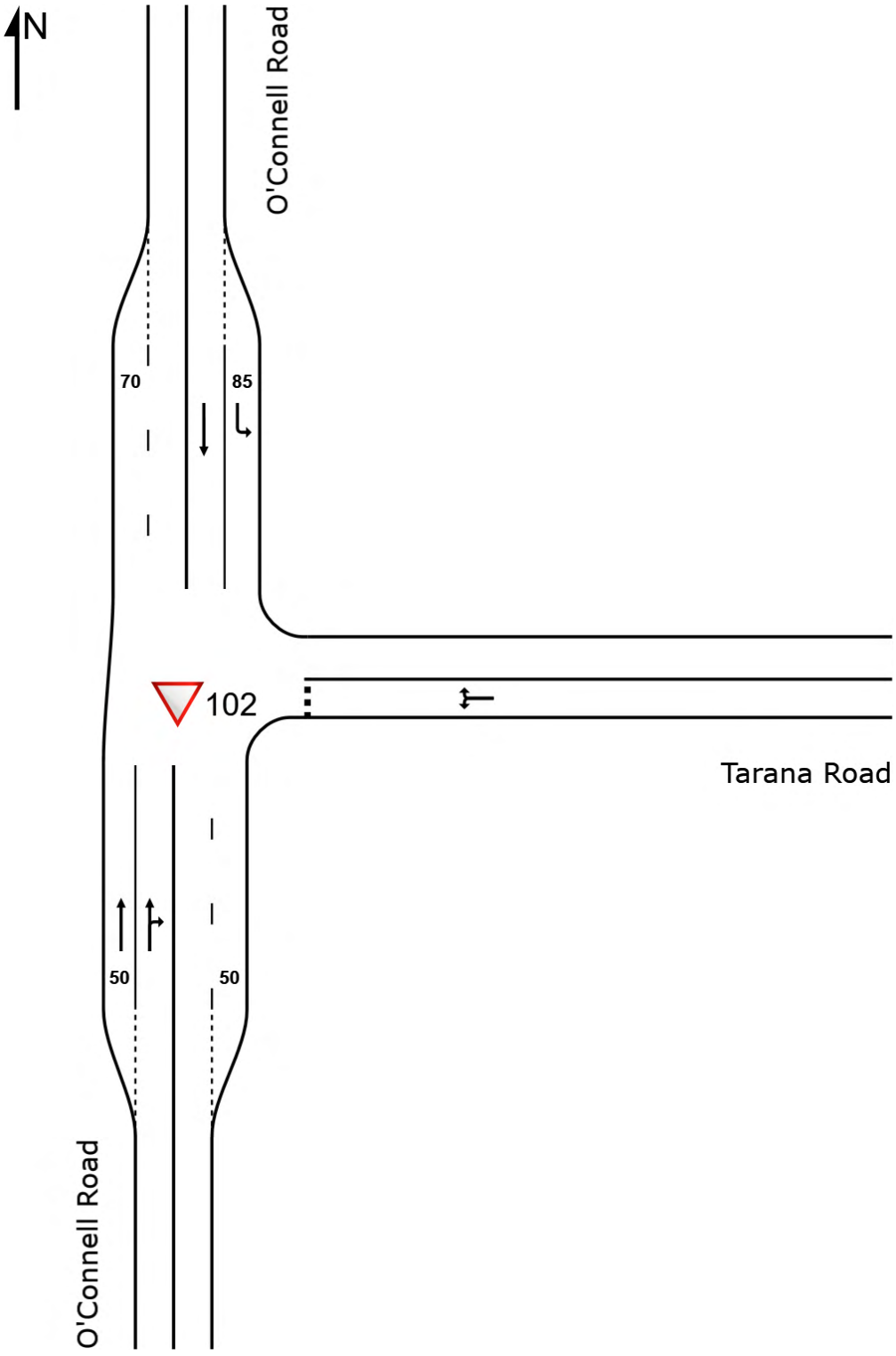
SIDRA Results

SITE LAYOUT

Site: 102 [O'Connell Rd-Tarana Rd - AM (Site Folder: General)]

AM Peak Hour
Site Category: Existing Design
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 102 [O'Connell Rd-Tarana Rd - AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

AM Peak Hour
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: O'Connell Road															
2	T1	All MCs	103	12.2	103	12.2	0.041	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	99.3
3	R2	All MCs	1	0.0	1	0.0	0.041	5.7	LOS A	0.0	0.1	0.01	0.01	0.01	62.3
Approach			104	12.1	104	12.1	0.041	0.1	NA	0.0	0.1	0.01	0.01	0.01	97.0
East: Tarana Road															
4	L2	All MCs	1	0.0	1	0.0	0.008	5.9	LOS A	0.0	0.2	0.35	0.56	0.35	57.7
6	R2	All MCs	5	20.0	5	20.0	0.008	7.8	LOS A	0.0	0.2	0.35	0.56	0.35	57.4
Approach			6	16.7	6	16.7	0.008	7.5	LOS A	0.0	0.2	0.35	0.56	0.35	57.5
North: O'Connell Road															
7	L2	All MCs	48	50.0	48	50.0	0.035	6.1	LOS A	0.0	0.0	0.00	0.57	0.00	57.4
8	T1	All MCs	99	25.5	99	25.5	0.058	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			147	33.6	147	33.6	0.058	2.0	NA	0.0	0.0	0.00	0.19	0.00	67.0
All Vehicles			258	24.5	258	24.5	0.058	1.4	NA	0.0	0.2	0.01	0.12	0.01	71.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [O'Connell Rd-Tarana Rd - PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

PM Peak Hour
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: O'Connell Road															
2	T1	All MCs	131	6.5	131	6.5	0.051	0.1	LOS A	0.0	0.1	0.01	0.01	0.01	99.5
3	R2	All MCs	1	0.0	1	0.0	0.051	5.7	LOS A	0.0	0.1	0.01	0.01	0.01	62.3
Approach			132	6.4	132	6.4	0.051	0.1	NA	0.0	0.1	0.01	0.01	0.01	97.6
East: Tarana Road															
4	L2	All MCs	1	0.0	1	0.0	0.097	6.2	LOS A	0.4	3.5	0.48	0.70	0.48	57.2
6	R2	All MCs	51	45.8	51	45.8	0.097	10.0	LOS A	0.4	3.5	0.48	0.70	0.48	56.6
Approach			52	44.9	52	44.9	0.097	10.0	LOS A	0.4	3.5	0.48	0.70	0.48	56.6
North: O'Connell Road															
7	L2	All MCs	19	5.6	19	5.6	0.011	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	58.0
8	T1	All MCs	171	3.1	171	3.1	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			189	3.3	189	3.3	0.088	0.6	NA	0.0	0.0	0.00	0.06	0.00	81.6
All Vehicles			373	10.2	373	10.2	0.097	1.7	NA	0.4	3.5	0.07	0.13	0.07	72.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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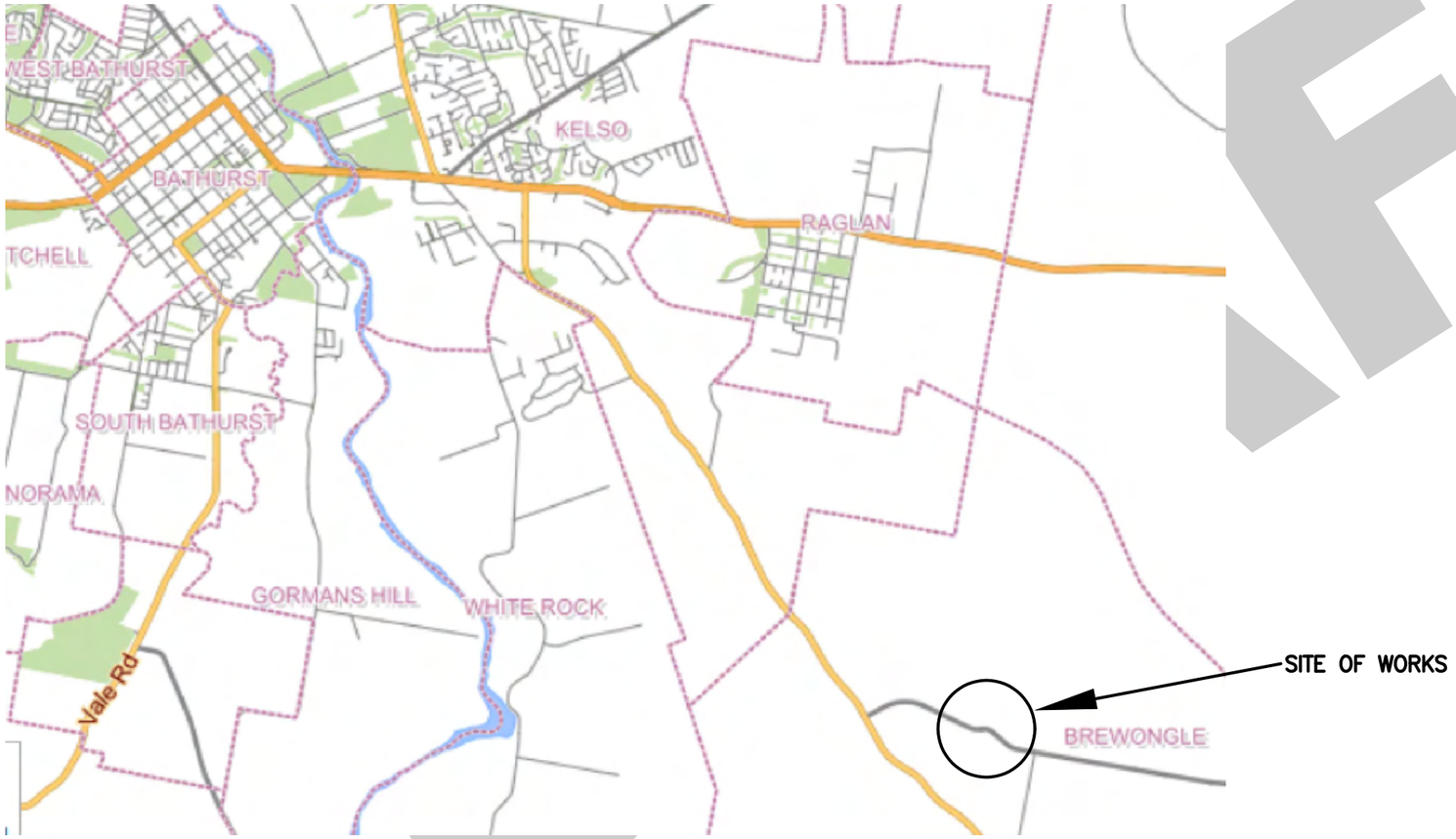
Appendix E

Tarana Road – Salt Water Creek Bridge Design Plans

SALTWATER CREEK BRIDGE, TARANA ROAD
RECONSTRUCTION & APPROACH REALIGNMENT
BATHURST REGIONAL COUNCIL

NORTH



LOCALITY PLAN
NOT TO SCALE

DRAWING INDEX		
SHEET	DESCRIPTION	REV
01	COVER SHEET	A
02	NOTES & STANDARD TRENCH SHIELDING DETAILS	A
03	LEGEND, DETAILS & TYPICAL CROSS SECTIONS	A
04	OVERALL LAYOUT PLAN	A
05	BULK EARTHWORKS PLAN	A
6	TARANA ROAD LAYOUT PLAN & LONGSECTION CH0.00 – CH180.00	A
7	TARANA ROAD LAYOUT PLAN & LONGSECTION CH180.00 – CH360.00	A
8	TARANA ROAD LAYOUT PLAN & LONGSECTION CH360.00 – CH540.30	A
9	TARANA ROAD LAYOUT PLAN & LONGSECTION CH540.30 – CH720.00	A
10	TARANA ROAD LAYOUT PLAN & LONGSECTION CH720.00 – CH881.572	A
11	TARANA ROAD CROSS SECTIONS CH87.13 – CH160.00	A
12	TARANA ROAD CROSS SECTIONS CH170.00 – CH240.00	A
13	TARANA ROAD CROSS SECTIONS CH250.00 – CH324.13	A
14	TARANA ROAD CROSS SECTIONS CH330.00 – CH380.00	A
15	TARANA ROAD CROSS SECTIONS CH390.00 – CH440.00	A
16	TARANA ROAD CROSS SECTIONS CH449.29 – CH490.00	A
17	TARANA ROAD CROSS SECTIONS CH499.29 – CH550.00	A
18	TARANA ROAD CROSS SECTIONS CH560.00 – CH610.00	A
19	TARANA ROAD CROSS SECTIONS CH620.00 – CH670.00	A
20	TARANA ROAD CROSS SECTIONS CH680.00 – CH750.00	A
21	TARANA ROAD CROSS SECTIONS CH763.51 – CH820.00	A
22	DRIVEWAY 1 PLAN & LONGSECTIONS	A
23	DRIVEWAY 2 PLAN & KERB RETURN LONGSECTIONS	A
24	DRIVEWAY 2 LONGSECTION	A
25	STORMWATER LINE 100 PLAN & LONGSECTIONS	A
26	STORMWATER LINE 100 HEADWALL CONSTRUCTION DETAILS	A
27	STORMWATER LINE 101 PLAN & LONGSECTIONS	A
28	STORMWATER LINE 101 HEADWALL CONSTRUCTION DETAILS	A
29	STORMWATER LINE 102 PLAN, LONGSECTION & HEADWALL CONSTRUCTION DETAILS	A
30	TRAFFIC DEVICES PLAN CH87.13 – CH480.00	A
31	TRAFFIC DEVICES PLAN CH490.00 – CH820.00	A
32	SITE RESTORATION & LANDSCAPING PLAN	A
33	EROSION & SEDIMENT CONTROL PLAN CH87.13 – CH280.00	A
34	EROSION & SEDIMENT CONTROL PLAN CH280.00 – CH480.00	A
35	EROSION & SEDIMENT CONTROL PLAN CH449.29 – CH640.00	A
36	EROSION & SEDIMENT CONTROL PLAN CH640.00 – CH820.00	A
37	SETOUT DETAILS	A

CONSULTANT

REV	DESCRIPTION	INITIALS	DATE
A	ISSUED FOR APPROVAL	MC	01/09/23
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CHECKED | APPROVED

SCALES IN METRES (A1)

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1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED
TECHNICAL SERVICES MANAGER
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT
DESCRIPTION: COVER SHEET
DWG No. EN12061 | SHEET No. 01 | REV. A

NOTES:

GENERAL:

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH BATHURST REGIONAL COUNCIL GUIDELINES FOR ENGINEERING WORKS, DRAWINGS, CONSTRUCTION SPECIFICATIONS AND RELEVANT AND CURRENT AUSTRALIAN STANDARDS .
2. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH "WORK HEALTH AND SAFETY ACT" 2011.
3. ALL DEVELOPMENT CONTROL CONDITIONS ARE TO BE FULLY COMPLIED WITH THROUGHOUT PROJECT.
4. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL TECHNICAL SPECIFICATIONS IN THE CONTRACT, INCLUDING OTHER RELEVANT DRAWINGS AS SPECIFIED. ANY DISCREPANCY TO BE REFERRED TO THE SUPERINTENDENT FOR CLARIFICATION PRIOR TO COMMENCEMENT OF ANY WORKS.
5. INSPECTIONS ARE TO BE UNDERTAKEN BY COUNCIL STAFF AS SPECIFIED IN DEVELOPMENT APPLICATION AND CONSTRUCTION CERTIFICATE CONDITIONS, DRAWING NOTES, ENGINEERING GUIDELINES AND CONSTRUCTION SPECIFICATIONS.
6. NO WORK IS TO BE CARRIED OUT ON PRIVATE PROPERTY WITHOUT THE WRITTEN PERMISSION OF THE OWNER. A COPY OF THE WRITTEN PERMISSION IS TO BE SUPPLIED TO COUNCIL.
7. ALL STRIPPED TOPSOIL TO BE STOCKPILED ON SITE AND USED FOR REHABILITATION OF DISTURBED AREAS UPON COMPLETION OF CONSTRUCTION WORKS.
8. ALL TREES TO BE REMOVED SHALL BE CLEARLY IDENTIFIED AND MARKED ONSITE AND INSPECTED BY COUNCIL STAFF PRIOR TO REMOVAL.
9. ALL WET OR UNSUITABLE MATERIAL TO BE REMOVED FROM SITE.
10. TRAFFIC MANAGEMENT TO BE PROVIDED AS REQUIRED TO THE REQUIREMENTS OF THE WORK HEALTH AND SAFETY ACT 2011, AS 1742 – MANUAL UNIFORM OF TRAFFIC CONTROL DEVICES, AS 4852 – VARIABLE MESSAGE SIGNS AND ROADS & MARITIME SERVICES TECHNICAL MANUAL – TRAFFIC CONTROL AT WORK SITES (TCAWS MANUAL). TRAFFIC MANAGEMENT PLAN AND TRAFFIC CONTROL PLANS TO PREPARED, IMPLEMENTED AND ADAPTED AS REQUIRED THROUGHOUT PROJECT.
11. SITE TO BE FENCED AND SIGN POSTED AT ALL TIMES.
12. ALL DISTURBANCE AND DAMAGE CAUSED BY THE CONTRACTOR IS TO BE REINSTATED TO PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE PRINCIPAL.
13. PLANS INCLUDE SHEETS WHICH USE COLOUR, PLANS MUST BE PRINTED IN COLOUR TO ENSURE READABILITY/LEGIBILITY AS INTENDED.
14. DRAWING IS NOT TO BE USED FOR SCALING DISTANCES.
15. IF IN DOUBT.... PLEASE ASK.

SURVEY:

1. THE CONTRACTOR IS TO SUBMIT A SURVEY QUALITY CONTROL PLAN FOR APPROVAL PRIOR TO COMMENCEMENT OF ANY WORKS.
2. THE ENGINEERING SURVEY SHALL NOT BE TAKEN AS A CADASTRAL OR BOUNDARY IDENTIFICATION SURVEY. BOUNDARY DATA SHALL BE TAKEN AS A GUIDE ONLY UNLESS NOTED OTHERWISE.
3. SHOULD DISCREPANCIES BE FOUND BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, THE CONTRACTOR SHALL NOTIFY COUNCIL PRIOR TO COMMENCEMENT OF ANY WORKS. THE CONTRACTOR SHALL ACCEPT ALL RESPONSIBILITY FOR ERRORS MADE DURING CONSTRUCTION WHERE SURVEY DISCREPANCIES WERE NOT RELAYED AND RESOLVED WITH COUNCIL PRIOR TO THE COMMENCEMENT OF WORKS.
4. ALL SURVEY MARKS SHALL BE PRESERVED IN ACCORDANCE WITH SURVEYOR-GENERAL'S DIRECTION NO.11 – PRESERVATION OF SURVEY INFRASTRUCTURE. SHOULD ANY DAMAGE OR DISTURBANCE TO SURVEY MARKS OCCUR, PROCEDURES DETAILED IN THIS DOCUMENT SHALL BE UNDERTAKEN BY THE CONTRACTOR AT THEIR OWN EXPENSE.

EXISTING UNDERGROUND SERVICES:

1. THE CONTRACTOR SHALL ENGAGE A DBYD CERTIFIED LOCATOR TO UNDERTAKE ALL SERVICE LOCATION WORKS.
2. PRIOR TO COMMENCEMENT OF ANY WORKS ONSITE, THE CONTRACTOR SHALL PROVIDE A CERTIFIED LOCATOR REPORT AND PRE-EXCAVATION ASSESSMENT IN ACCORDANCE WITH AS 5488 AND PROVIDE PROOF OF CONTACT, LIAISON AND APPROVAL TO PROCEED WITH WORKS FROM ALL RELEVANT SUPPLY AUTHORITIES/ASSET OWNERS. A COPY OF THIS INFORMATION SHALL BE KEPT ONSITE ACCESSIBLE TO ALL PERSONS.
3. THE LOCATIONS SHOWN ON THE DRAWING ARE APPROXIMATE ONLY AND MAY NOT BE 'AS CONSTRUCTED' OR ACCURATE.
4. THE CONTRACTOR SHALL TAKE ALL DUE CARE WHEN EXCAVATING ON SITE INCLUDING NON-DESTRUCTIVE EXCAVATION WHERE NECESSARY.
5. LOCATED SERVICES ARE TO BE SURVEYED ONSITE PRIOR TO ANY CONSTRUCTION WORKS AND INCLUDED IN WORKS AS EXECUTED DRAWINGS AS BOTH POINT DATA AND LINEWORK. THE SERVICE SEARCH & SURVEY RECORDS ARE TO BE KEPT ONSITE AT ALL TIMES.
6. ALL EXISTING SERVICES AFFECTED BY PROPOSED WORKS ARE TO BE ADJUSTED AS REQUIRED TO THE SATISFACTION OF THE RELEVANT SERVICE AUTHORITY/ASSET OWNER.

EROSION & SEDIMENT/SOIL & WATER MANAGEMENT MEASURES:

1. PLAN TO BE APPROVED PRIOR TO THE COMMENCEMENT OF ANY WORKS.
2. CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION" (2004) (THE BLUE BOOK).
3. CONTROLS TO BE IN PLACE PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK. CONTROLS TO BE APPLIED TO PROTECT ADJOINING PROPERTIES FROM EROSION AND SILT DAMAGE.
4. DISTURBANCE TO BE KEPT TO A MINIMUM AND WITHIN THE LIMITS OF THE CONSTRUCTION SITE.
5. ALL INSTALLED CONTROLS TO BE INSPECTED AT LEAST WEEKLY AND IMMEDIATELY FOLLOWING A RAIN EVENT. MAINTENANCE TO BE UNDERTAKEN AS REQUIRED.
6. CONTROLS TO BE LOCATED AS CLOSE AS PRACTICAL TO ANY ESSENTIAL CONSTRUCTION ACTIVITY AS SHOWN.
7. STOCKPILES SHALL BE CONFINED TO ONE CENTRAL AREA WHERE POSSIBLE.
8. CONTROL DEVICES TO BE INSTALLED TO CONSTRUCTED STORMWATER PITS IMMEDIATELY FOLLOWING THEIR CONSTRUCTION. PIPED DRAINAGE NETWORKS SHOULD BE INSTALLED AND CONNECTED AS EARLY AS POSSIBLE.
9. A PROGRAM OF PROGRESSIVE REHABILITATION IS TO BE IMPLEMENTED TO MINIMISE EROSION.
10. PROTECTIVE MEASURES NOT TO BE REMOVED UNTIL CONSTRUCTION IS COMPLETED AND SITE HAS BEEN REHABILITATED.
11. REHABILITATION INCLUDES COMPLETION OF ALL CONSTRUCTION WORK AND LANDSCAPING, TOPSOILING, SEEDING OR TURFING OF ALL BATTERS, FILL AND DISTURBED AREAS.
12. WHERE SITE REGRADING OR FILLING IS BEING UNDERTAKEN, ENSURE NO WATER PONDS ON ANY LOT.
13. ALL AREAS NOT SUBJECT TO CONSTRUCTION WORKS SHALL BE RETAINED FREE FROM DISTURBANCE OR DAMAGE DURING THE CURRENCY OF THE CONTRACT. SHOULD THESE AREAS BECOME DISTURBED OR DAMAGED, THEY SHALL BE REINSTATED BY THE CONTRACTOR AT NO COST TO THE PRINCIPAL.

EARTHWORKS:

1. FILL LAYERS NOT TO EXCEED A LOOSE DEPTH OF 250mm UNDER ANY CIRCUMSTANCE.
2. EARTHWORKS AND SUB-GRADES SHALL BE THOROUGHLY COMPACTED TO 98% STANDARD COMPACTION AND AT OPTIMUM MOISTURE CONTENT, ± 2% WHEN TESTED, IN ACCORDANCE WITH THE CURRENT AUSTRALIAN STANDARD FOR METHODS OF TESTING SOILS FOR ENGINEERING PURPOSES.
3. INSPECTION AND TESTING OF FILLED LAYERS SHALL BE CARRIED OUT BY NATA REGISTERED SOILS LABORATORY IN ACCORDANCE WITH DEVELOPMENT CONDITIONS, BATHURST REGIONAL COUNCIL GUIDELINES FOR ENGINEERING WORKS AND COUNCIL SPECIFICATIONS.

ROADWORKS:

1. FINAL PAVEMENT THICKNESS AND TESTING REQUIREMENTS ARE TO BE IN ACCORDANCE WITH PROVIDED DESIGN SPECIFICATION AND CONFIRMED WITH GEOTECHNICAL TESTING AND DESIGN.
2. FILL AREAS:
   A. ALL ROAD AND FILL AREAS TO BE CLEARED OF UNDERGROWTH AND GRASS, TOPSOIL TO BE REMOVED AND STOCKPILED ONSITE FOR SPREADING FOR FOOTPATHS, BATTER AREAS AND OTHER FILL AREAS PRIOR TO COMPLETION.
   B. ALL UNSUITABLE MATERIAL, AS DETERMINED BY COUNCIL ENGINEER, TO BE REMOVED AND REPLACED BY APPROVED SELECT MATERIAL.
   C. ALL FILLING TO BE CONTROLLED AND INSPECTED BY NATA REGISTERED LABORATORY IN ACCORDANCE WITH BATHURST REGIONAL COUNCIL GUIDELINES FOR ENGINEERING WORKS, COUNCIL SPECIFICATIONS AND AS DIRECTED BY COUNCIL ENGINEER.
3. ALL TESTING WORKS SHALL BE CONTROLLED AND CERTIFIED BY NATA REGISTERED LABORATORY, COPIES OF ALL TEST CERTIFICATES INDICATING THE LOCATION OF EACH TEST AND LABORATORY'S CERTIFICATES COVERING THE WHOLE OF THE AREA TESTED ARE TO BE PROVIDED TO COUNCIL IN ACCORDANCE WITH BATHURST REGIONAL COUNCIL GUIDELINES FOR ENGINEERING WORKS, COUNCIL SPECIFICATIONS AND AS DIRECTED BY COUNCIL ENGINEER.
4. SUBSOIL DRAINAGE TO BE PROVIDED AS DETAILED.
5. BATTERS & FOOTPATH TO BE TOPSOILED TO A MINIMUM DEPTH OF 150mm.
6. SEE DEVELOPMENT CONDITIONS, BATHURST REGIONAL COUNCIL GUIDELINES FOR ENGINEERING WORKS AND COUNCIL SPECIFICATIONS FOR COMPULSORY INSPECTIONS REQUIRING CERTIFICATION.

STORMWATER/DRAINAGE:

1. ALL MATERIALS TO COMPLY WITH ALL RELEVANT AUSTRALIAN STANDARDS.
2. PIT LIDS TO BE SQUARE.
3. LIDS TO BE REINFORCED WITH LIFTING EYES.
4. PITS DEEPER THAN 1m TO HAVE MINIMUM INTERNAL DIMENSIONS OF 900x900 FOR ACCESS.
5. PITS DEEPER THAN 1.2m TO HAVE STEP IRONS FOR SAFE ACCESS.
6. ALL PIPES TO BE RUBBER RING JOIN.
7. BACKFILL TO COMPLY WITH EN7892.
8. ALL PIPE JOINS IN PITS, HEADWALLS AND OTHER DRAINAGE STRUCTURES ARE TO BE MORTARED TO PREVENT INFILTRATION.
9. ALL PIPES TO BE LAYED WITH COLLARS IN 'UPSTREAM' DIRECTION.
10. SEE BRC DRAWING EN7886 FOR STANDARD KERB INLET PIT DETAILS.
11. SEE BRC DRAWING EN7887 FOR STANDARD JUNCTION PIT DETAILS.
12. SEE BRC DRAWING EN7888 FOR STANDARD SURFACE INLET PIT DETAILS.
13. SEE BRC DRAWING EN7889 FOR STANDARD INTERALLOTMENT PIT DETAILS.
14. SEE BRC DRAWING EN7890 FOR STANDARD PENSTOCK PIT DETAILS.
15. SEE BRC DRAWING EN7891 FOR STANDARD INTERALLOTMENT PIT IN CONCRETE PATH DETAILS.
16. SEE BRC DRAWING EN7892 FOR STANDARD STORMWATER PIPE BEDDING DETAILS.
17. SEE BRC DRAWING EN7893 FOR STANDARD STORMWATER KERB INLET PIT DEFLECTOR DETAILS.
18. SEE BRC DRAWING EN7894 FOR STANDARD BUILDING STORMWATER FOOTPATH/VERGE CONVERSION DETAILS.
19. SEE BRC DRAWING EN7895 FOR STANDARD CONCRETE BULKHEAD DETAILS.
20. SEE BRC DRAWING EN7896 FOR STANDARD SUBSOIL DRAINAGE DETAILS.
21. SEE BRC DRAWING EN7897 FOR STANDARD SUBSOIL DRAIN FLUSH-OUT POINT & OUTLET DETAILS.
22. SEE DEVELOPMENT CONDITIONS, BATHURST REGIONAL COUNCIL GUIDELINES FOR ENGINEERING WORKS AND COUNCIL SPECIFICATIONS FOR COMPULSORY INSPECTIONS REQUIRING CERTIFICATION.

GENERAL STRUCTURES:

1. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE STRUCTURE UNTIL ITS COMPLETION AND SHALL ENSURE THAT NO PART OF THE STRUCTURE IS OVERSTRESSED BY EXCESSIVE LOADING.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT CODES OF PRACTICE EXCEPT WHERE VARIED BY THE SPECIFICATIONS AND/OR DRAWINGS.
3. ALL DISCREPANCIES SHALL BE REFERRED TO THE SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK.

CONCRETE:

GENERALLY:

1. ALL CONCRETE TO BE MINIMUM 32MPa UNLESS NOTED OTHERWISE.
2. CEMENT TYPE GP TO BE USED.
3. WHERE NOT DETAILED IN THE DRAWINGS OR SPECIFICATIONS, EXPANSION JOINTS NOT TO EXCEED 6m INTERVALS.
4. WHERE NOT DETAILED IN THE DRAWINGS OR SPECIFICATIONS, CONTRACTION CRACK CONTROL JOINTS NOT TO EXCEED 6m INTERVALS FOR REINFORCED CONCRETE. NOT TO EXCEED 3m FOR UNREINFORCED CONCRETE.
5. WHERE NOT DETAILED IN THE DRAWINGS OR SPECIFICATIONS, CONSTRUCTIONS JOINTS SHALL BE LOCATED TO THE APPROVAL OF THE SUPERINTENDENT/ENGINEER.
6. NO PENETRATIONS, CHASES OR EMBEDMENTS OF CONDUITS OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE SUPERINTENDENT/ENGINEER.
7. ALL CONCRETE TO BE MECHANICALLY VIBRATED. VIBRATORS NOT BE USED TO SPREAD CONCRETE.
8. JOINTS TO BE SMOOTH/FLUSH AT SAME LEVEL.
9. SEE DEVELOPMENT CONDITIONS, BATHURST REGIONAL COUNCIL GUIDELINES FOR ENGINEERING WORKS AND COUNCIL SPECIFICATIONS FOR COMPULSORY INSPECTIONS REQUIRING CERTIFICATION.

REINFORCING:

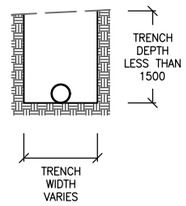
1. COVER TO REINFORCEMENT SHALL GENERALLY BE MINIMUM 50mm, AS SPECIFIED OR IN ACCORDANCE WITH WITH AS 3600.
2. REINFORCEMENT BARS SHALL COMPLY WITH AS 4671. GRADE TO BE 500.
3. REINFORCEMENT FABRIC/MESH SHALL COMPLY WITH AS 4671.
4. WELDING OF REINFORCEMENT IS NOT PERMITTED UNLESS NOTED OTHERWISE.
5. MINIMUM CLEAR SPACING BETWEEN CONDUITS, CABLES, PIPES AND BARS TO BE AS PER AS 3600 BUT SHALL BE LESS THAN 3 DIAMETERS. CONDUITS IN SLAB TO BE PLACED ABOVE BOTTOM REINFORCEMENT AND BELOW TOP REINFORCEMENT.
6. HOOKS, LAPS, SPLICES AND BENDS TO BE IN ACCORDANCE WITH AS 3600.

METALWORK & STRUCTURAL STEEL:

1. ALL METALWORK & STEELWORK TO GENERALLY COMPLY WITH THE REQUIREMENTS OF AS 4100, AS 4600, AS 4673, AS 5131, THE NATIONAL CONSTRUCTION CODE & ANY OTHER RELEVANT AUSTRALIAN STANDARDS AS RELEVANT.

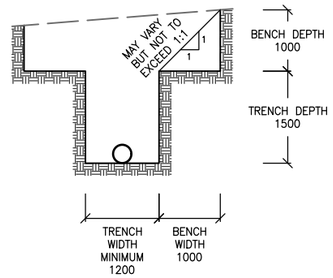
TRENCH SHIELDING:

1. WORKCOVER SPECIFICATIONS TO BE CONSULTED PRIOR TO THE COMMENCEMENT OF ANY WORK WHERE BENCHING IS TO TAKE PLACE.
2. ALL DETAILS SHOWN ON THIS PLAN ARE TO BE APPROVED BY WORKCOVER PRIOR TO COMMENCING ANY WORK.
3. FOR TRENCH DEPTHS GREATER THAN 3700mm ADDITIONAL SHIELDING MAY BE REQUIRED OR INCREASED BENCHING UNDERTAKEN. ALL PROPOSALS WILL BE SUBJECT TO GROUND CONDITIONS AND WORKCOVER APPROVAL.
4. TRENCH SHIELD TO BE USED FOR ALL TRENCHES GREATER THAN 1500mm DEEP.
5. HEIGHT OF BENCH NOT TO EXCEED WIDTH OF BENCH UNDER ANY CIRCUMSTANCE.
6. EXCAVATIONS TO BE BACKFILLED BEHIND SHIELD.
7. EXCAVATIONS TO BE FULLY BRACED IN LOCATIONS SUBJECT TO VIBRATION AND GROUND WATER FLOW.
8. EXCAVATIONS LEFT OPEN FOR AN EXTENDED PERIOD TO BE BRACED ALSO.
9. EXCAVATIONS TO BE FENCED WITH PARRAWEBBING AT ALL TIMES.
10. EXCAVATED MATERIAL OR ANY OTHER OBJECT NOT TO BE PLACED WITHIN 1m OF EDGE OF EXCAVATION.
11. ACCESS LADDERS SHALL BE PROVIDED IN TRENCHES DEEPER THAN 1200mm.



TRENCH SHIELDING EXAMPLE FOR LESS THAN 1500mm

SCALE 1:50



TRENCH SHIELDING EXAMPLE FOR 1500mm – 2500mm

SCALE 1:50

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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CHECKED	APPROVED				

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1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5	1:1000	0 10 20 30 40 50
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20	1:2000	0 20 40 60 80 100
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25	1:5000	0 50 100 150 200 250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: NOTES & STANDARD TRENCH SHIELDING DETAILS

DWG No.	SHEET No.	REV.
EN12061	02	A

LEGEND

ROAD

- EXISTING CENTRELINE
- EXISTING EDGE OF BITUMEN
- EXISTING EDGE OF BITUMEN TO BE REMOVED
- EXISTING TABLE DRAIN
- EXISTING GUARDRAIL TO BE REMOVED
- PROPOSED CENTRELINE
- PROPOSED EDGE OF BITUMEN & FORMATION
- PROPOSED BATTER
- PROPOSED TABLE DRAIN
- PROPOSED GUARDRAIL

GENERAL

- EXISTING BOUNDARY
- EXISTING BRIDGE
- EXISTING DRIVEWAY
- EXISTING FENCE
- EXISTING FENCE TO BE REMOVED
- EXISTING BOTTOM OF BANK
- EXISTING TOP OF BANK
- PROPOSED BOUNDARY
- PROPOSED BRIDGE
- PROPOSED DRIVEWAY
- PROPOSED FENCE TYPE 1
- PROPOSED RETAINING WALL
- PROPOSED GATE
- PROPOSED EXTENT OF WORKS
- SURVEY MARK – SSM/PM
- SURVEY MARK – IRON STAKE/DUMPY PEG
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- EXISTING GUARDRAIL POST
- EXISTING GATE
- EXISTING ROAD SIGN

DRAINAGE

- SW375 (B) — EXISTING STORMWATER PIPE 375ø LOCATION LEVEL B
- SW — SW — EXISTING PIPE & HEADWALL
- EXISTING TABLE DRAIN
- SW600 — PROPOSED STORMWATER PIPE 600ø
- SW — SW — PROPOSED PIPE & HEADWALL
- 01 / 100 — PROPOSED PIT NUMBER / PROPOSED LINE NUMBER

TELECOM

- TC50 (C) — EXISTING TELECOM COPPER 50 PAIR LOCATION LEVEL C
- TF (A) — EXISTING TELECOM FIBRE LOCATION LEVEL A
- EXISTING STANDARD TELECOM PIT
- EXISTING TELECOM MARKER POST
- EXISTING TELECOM ELEVATED JOIN/PILLAR

GAS

- G210 (D) — EXISTING GAS LINE 210kPa LOCATION LEVEL D

AS5488 QUALITY LEVEL CLASSES

- (A) — (A) — (A) IN EXISTING SERVICE LINETYPE DENOTES LOCATION QUALITY LEVEL A
- (B) — (B) — (B) IN EXISTING SERVICE LINETYPE DENOTES LOCATION QUALITY LEVEL B
- (C) — (C) — (C) IN EXISTING SERVICE LINETYPE DENOTES LOCATION QUALITY LEVEL C
- (D) — (D) — (D) IN EXISTING SERVICE LINETYPE DENOTES LOCATION QUALITY LEVEL D

LEGEND NOTES:

1. LINETYPES SHOWN IN STANDARD LEGEND MAY VARY IN SOME VIEWPORTS – E.G. IN STORMWATER LAYOUT PLANS, PROPOSED STORMWATER INFRASTRUCTURE MAY BE PLOTTED IN COLOUR TO ENSURE CLARITY OF PROPOSED STORMWATER INFRASTRUCTURE.
2. PLANS INCLUDE SHEETS WHICH USE COLOUR. PLANS MUST BE PRINTED IN COLOUR TO ENSURE READABILITY/LEGIBILITY AS INTENDED.

DIAL BEFORE YOU DIG
www.1100.com.au

WARNING: BEWARE OF EXISTING STORMWATER, SEWER, WATER, POWER, TELECOM & GAS INFRASTRUCTURE ON THIS JOB SITE.

GUARDRAIL SCHEDULE

DESCRIPTION	QUANTITY REQUIRED	COMMENTS
16m ET–2000 TERMINATION	4 OFF	
MASH TL3 W–BEAM GUARDRAIL	188m	
THRIE–BEAM TO W BEAM TRANSITION	4 OFF	BRIDGE CONTRACTOR TO PROVIDE
MASH TL4 THRIE–BEAM GUARDRAIL	APPROX 70m	BRIDGE CONTRACTOR TO PROVIDE, QUANTITY DEPENDENT ON FINAL DECK LENGTH

HORIZONTAL CURVE DETAILS

CURVE NUMBER & CHAINAGE RANGE	DESIGN SPEED	DESIRABLE MINIMUM RADIUS	ACTUAL RADIUS	MINIMUM SPIRAL LENGTH	ACTUAL SPIRAL LENGTHS	FULL SUPERELEVATION DEVELOPMENT	PAVEMENT WIDENING APPLIED	COMMENTS
1 87.13 – 277.85	90	336	1600	SPIRALS NOT REQUIRED	SPIRALS NOT REQUIRED	NORMAL CROSSFALL	NO	SPIRALS, SUPERELEVATION AND PAVEMENT WIDENING NOT REQUIRED DUE TO LARGE RADIUS – SEE DESIGN REPORT FOR FURTHER DETAILS
2 367.88 – 499.29	90	336	337	50	50 IN & OUT	YES	YES – 0.4m	CURVE RADIUS MEETS DESIRABLE CRITERIA. MAXIMUM SUPERELEVATION 6%. DESIRABLE DEVELOPMENT LENGTH ACHIEVED. SEE DESIGN REPORT FOR FURTHER DETAILS.
3 580.25 – 763.51	90	336	337	50	50 IN & OUT	YES	YES – 0.4m	CURVE RADIUS MEETS DESIRABLE CRITERIA. MAXIMUM SUPERELEVATION 6%. DESIRABLE DEVELOPMENT LENGTH ACHIEVED. SEE DESIGN REPORT FOR FURTHER DETAILS.

VERTICAL CURVE DETAILS

CURVE TYPE & CHAINAGE RANGE	DESIGN SPEED	CONSTRAINT	S<L	DESIRABLE STOPPING SIGHT DISTANCE	DESIRABLE CURVE LENGTH	ACTUAL CURVE LENGTH	COMMENTS
SAG 87.50 – 142.50	90	HEADLIGHT SIGHT DISTANCE	NO	145 – ADJUSTED BASED ON GRADE	49.5	55	MEETS DESIRABLE HEADLIGHT CRITERIA. UNUSUAL CASE WHERE FORMULA 21 APPLIES OVER FORMULA 22 DESPITE S>L
SAG 190.06 – 240.06	90	HEADLIGHT SIGHT DISTANCE	NO	141 – ADJUSTED BASED ON GRADE	19.1	50	MEETS DESIRABLE HEADLIGHT CRITERIA. UNUSUAL CASE WHERE FORMULA 21 APPLIES OVER FORMULA 22 DESPITE S>L
SAG 345.00 – 355.00	90	APPEARANCE & COMFORT	NO	141 – ADJUSTED BASED ON GRADE	7.8	10	DOES NOT MEET DESIRABLE HEADLIGHT CRITERIA, BUT MEETS COMFORT CRITERIA. PROVIDED TO PREVENT 0% GRADE, WITH 0% SUPERELEVATION SECTION IN ROAD
SAG 375.54 – 555.54	90	HEADLIGHT SIGHT DISTANCE	YES	154 – ADJUSTED BASED ON GRADE	170.5	180	MEETS DESIRABLE HEADLIGHT CRITERIA
CREST 602.50 – 807.50	90	SIGHT DISTANCE	YES	154 – ADJUSTED BASED ON GRADE	201.300	205	MEETS DESIRABLE SIGHT DISTANCE CRITERIA

ASSOCIATED DRAWINGS

DRAWING NO.	DESCRIPTION
EN7881	RURAL ACCESS & STANDARD CONCRETE DRAIN DETAILS
EN7883	TRENCH SHIELDING REQUIREMENTS
EN7892	STORMWATER PIPE BEDDING & BACKFILL DETAILS
EN7896	SUBSOIL DRAINAGE DETAILS

STANDARD GUIDE POST SPACING ON CURVES TABLE

CURVE RADIUS	OUTSIDE OF CURVE SPACING	INSIDE OF CURVE SPACING
<100	6	12
100–199	10	20
200–299	15	30
300–399	20	40
400–599	30	60
600–699	40	60
800–1999	60	60
1200–2000	90 (75 IN FOGGY AREAS)	90 (75 IN FOGGY AREAS)
>2000 (INCLUDING STRAIGHTS)	150 (75 IN FOGGY AREAS)	150 (75 IN FOGGY AREAS)

PAVEMENT DESIGN

STREET NAME	BITUMEN SURFACE	BASE COURSE	TOTAL DEPTH
TARANA ROAD	7/14mm TWO COAT SEAL WITH PRIME COAT	300mm (2x150 LAYERS) DGB20	300

MATERIAL & CONSTRUCTION REQUIREMENTS

LAYER	MIN. CBR	MIN. STANDARD COMPACTION
BASE COURSE	80	100
SUBGRADE	10	98

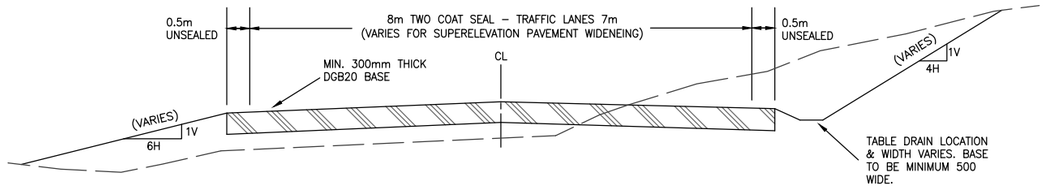
SURVEY DETAILS

MARK	EASTING	NORTHING	RL	REMARKS
STN 1	747999.517	6293214.209	686.912	DUMPY PEG & NAIL
STN 2	748492.154	6292953.302	699.074	IRON STAKE
STN 3	748269.273	6293139.491	683.600	IRON STAKE
STN 4	748215.155	6293145.983	683.987	IRON STAKE

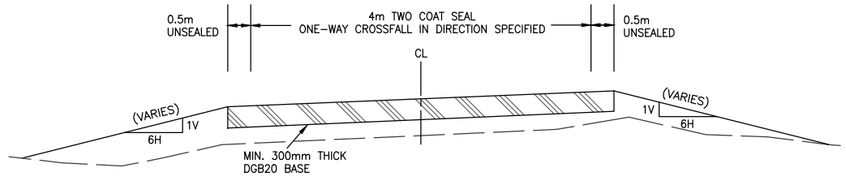
SURVEY NOTES:

ALL SURVEY UNDERTAKEN WITH LEICA GPS ON CORSNET NETWORK MGA ZONE 55, GDA 2020
ORIGIN FOR SETOUT: STN 1
E – 747999.517
N – 6293214.209
RL – 686.912
DATUM – AHD

NOTE: PAVEMENT THICKNESS BASED ON SUBGRADE CBR > 10. RURAL ESA 1x10^7 AS PER ENGINEERING GUIDELINES. SUBGRADE TESTING SHALL BE CARRIED OUT PRIOR TO CONSTRUCTION.



TARANA ROAD TYPICAL CROSS SECTION
NOT TO SCALE



DRIVEWAYS TYPICAL CROSS SECTION
NOT TO SCALE

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION
LEGEND, DETAILS & TYPICAL CROSS SECTIONS

DWG No.	SHEET No.	REV.
EN12061	03	A

DRAFT

NORTH

NOTES:

1. TARANA ROAD:
   - SEE SHEETS 06–10 FOR LONGSECTION DETAILS.
   - SEE SHEETS 11–21 FOR CROSS SECTION DETAILS.
2. DRIVEWAY 1:
   - SEE SHEET 22 FOR WORKS DETAILS.
3. DRIVEWAY 2:
   - SEE SHEETS 23–24 FOR WORKS DETAILS.
4. STORMWATER:
   - SEE SHEETS 25–29 FOR WORKS DETAILS.
5. TRAFFIC DEVICES:
   - SEE SHEETS 30–31 FOR WORKS DETAILS.
6. SITE RESTORATION & LANDSCAPING:
   - SEE SHEET 32 FOR WORKS DETAILS.
7. SOIL & WATER MANAGEMENT:
   - SEE SHEETS 33–36 FOR WORKS DETAILS.
8. SETOUT:
   - SEE SHEET 37 FOR DETAILS.

LOT 6022
DP 1221398
PRIVATELY OWNED

LOT 10
DP 827359
PRIVATELY OWNED

STN 1

TARANA

TO BATHURST.

SALTWATER

EXISTING BRIDGE & APPROACHES TO BE REMOVED AS PART OF WORKS.

FULL ACQUISITION OF SMALL PARCEL OF LOT 6022 DP 1221398.

LOT 6022
DP 1221398
PRIVATELY OWNED

FULL ACQUISITION OF LOT 4 DP 720638 FROM CROWN.

STN 4

LOT 4
DP 720638
CROWN LAND

STN 3

DRIVEWAY 2 – TO BE RECONSTRUCTED.

REMOVE EXISTING TREES.

REMOVE EXISTING TREE.

NEW BRIDGE LEVEL INDICATIVE ONLY, FINAL DESIGN BY BRIDGE CONTRACTOR.

SW1800

SW450

LOT 5
DP 720638
CROWN LAND

LOT 6
DP 720638
CROWN LAND

BOUNDARY ADJUSTMENT & LAND ACQUISITION TO LOT 61 DP 1013488.

CREEK

NEW CULVERT THROUGH EXISTING CHANNEL.

DRIVEWAY 1 – TO BE RECONSTRUCTED.

LOT 61
DP 1013488
PRIVATELY OWNED

ROAD RESERVE

BOUNDARY ADJUSTMENT & LAND ACQUISITION TO LOT 10 DP 827359 & LOT 5 DP 720638.

LOT 1
DP 1206130
PRIVATELY OWNED

BOUNDARY ADJUSTMENT & LAND ACQUISITION TO LOT 1 DP 1206130.

STN 2

ROAD

TO BREWONGLE.

LOT 7
DP 838595
PRIVATELY OWNED

DRAFT

OVERALL LAYOUT PLAN
NOT TO SCALE

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0	0.1	0.2	0.3	0.4	0.5	1:200	0	2	4	6	8	10	1:750	0	7.5	15	22.5	30	37.5
1:20	0	0.2	0.4	0.6	0.8	1.0	1:250	0	2.5	5	7.5	10	12.5	1:1000	0	10	20	30	40	50
1:50	0	0.5	1.0	1.5	2.0	2.5	1:400	0	4	8	12	16	20	1:2000	0	20	40	60	80	100
1:100	0	1	2	3	4	5	1:500	0	5	10	15	20	25	1:5000	0	50	100	150	200	250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD
RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION
OVERALL LAYOUT PLAN

DWG No.	SHEET No.	REV.
EN12061	04	A

NORTH

LOT 6022
DP 1221398
PRIVATELY OWNED

TARANA

LOT 4
DP 720638
CROWN LAND

LOT 10
DP 827359
PRIVATELY OWNED

LOT 5
DP 720638
CROWN LAND

LOT 61
DP 1013488
PRIVATELY OWNED

ROAD RESERVE

LOT 1
DP 1206130
PRIVATELY OWNED

EXTENDED ROAD RESERVE AREA
POTENTIAL ONSITE BORROW PIT
IF MATERIAL SUITABLE.

ROAD

LOT 7
DP 838595
PRIVATELY OWNED

DRAFT

BULK EARTHWORKS:

TOTAL AREA: 20,000m2
TOPSOIL STRIP VOLUME: 2,000m3
TOTAL ONSITE CUT: 3690m3
TOTAL ONSITE FILL: 7005m3

NET ONSITE EARTHWORKS VOLUME (EXCLUDING TOPSOIL): 3315m3 FILL REQUIRED. THIS WILL NEED TO BE GENERATED FROM BORROW AREA ONSITE FROM EXTENDED ROAD RESERVE AREA AS SHOWN ON PLAN, OR FROM IMPORTED MATERIALS.

Elevations Table

Number	Minimum Elevation	Maximum Elevation	Color
1	−2.500	−1.500	
2	−1.500	−0.500	
3	−0.500	0.500	
4	0.500	1.500	
5	1.500	2.500	
6	2.500	3.500	

BULK EARTHWORKS PLAN
NOT TO SCALE

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

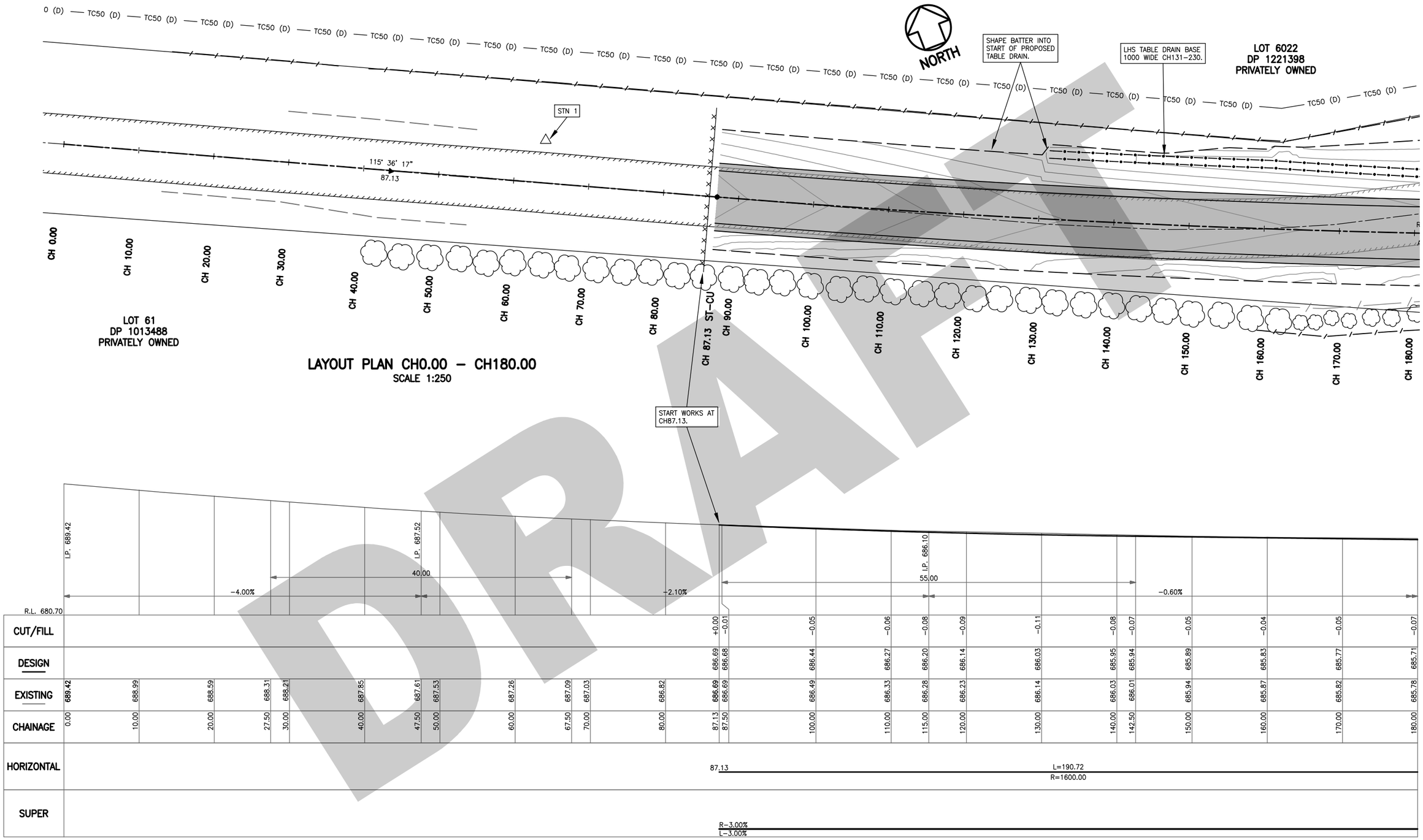
CHECKED
TECHNICAL SERVICES MANAGER
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT
DESCRIPTION: BULK EARTHWORKS PLAN
DWG No. EN12061 | SHEET No. 05 | REV. A

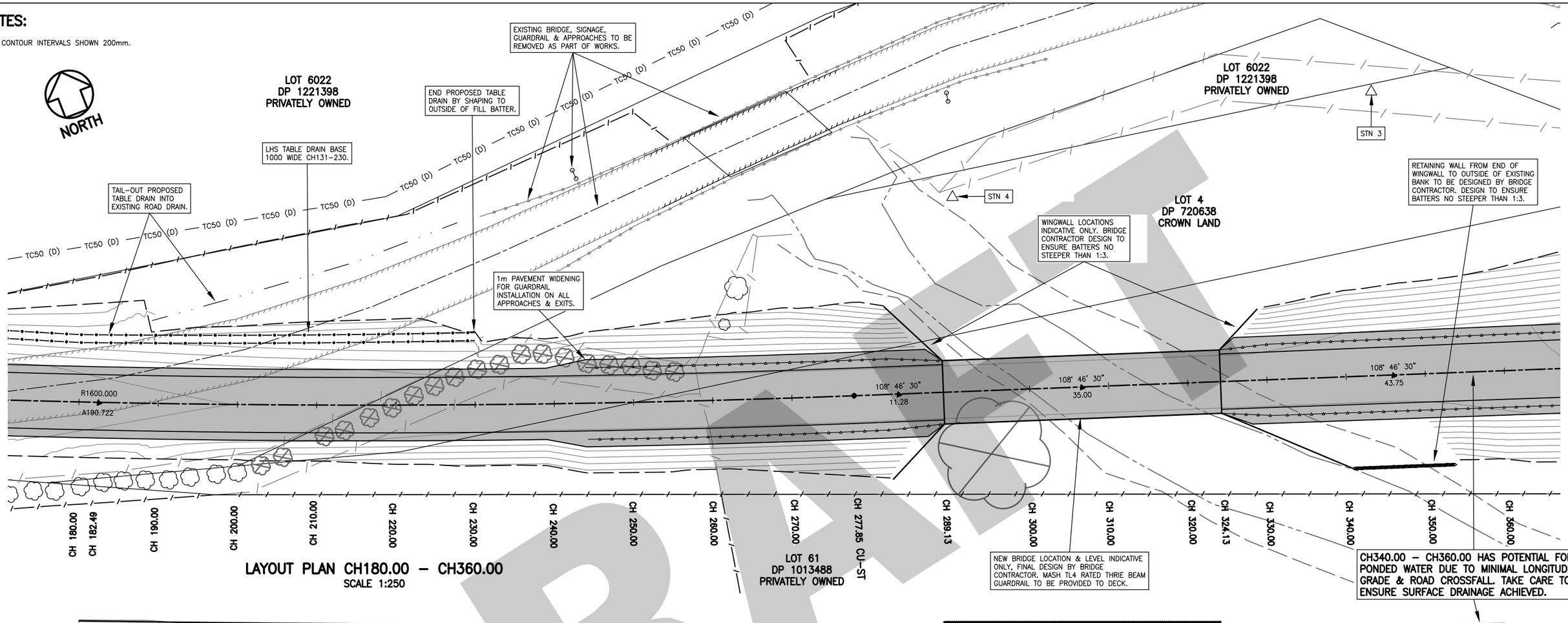
NOTES:

1. CONTOUR INTERVALS SHOWN 200mm.

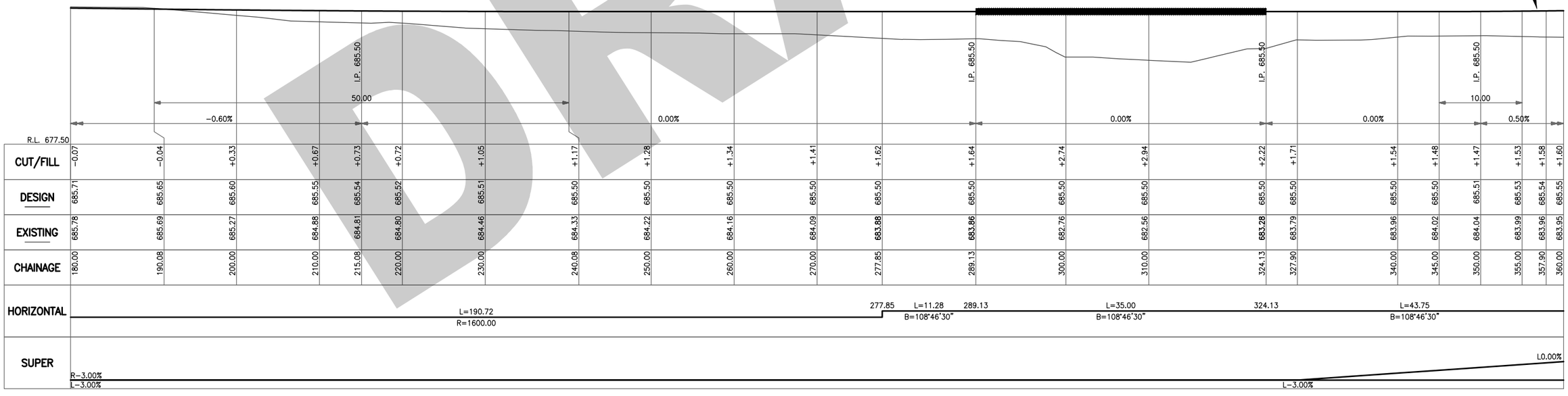

0 (D) TC50 (D) TC50 (D) TC50

NOTES:

1. CONTOUR INTERVALS SHOWN 200mm.



LAYOUT PLAN CH180.00 – CH360.00
SCALE 1:250



CHAINAGE	CUT/FILL	DESIGN	EXISTING
180.00	–0.07	685.71	685.78
190.08	–0.04	685.65	685.69
200.00	+0.33	685.60	685.27
210.00	+0.67	685.55	684.88
215.08	+0.73	685.54	684.81
220.00	+0.72	685.52	684.80
230.00	+1.05	685.51	684.46
240.08	+1.17	685.50	684.33
250.00	+1.28	685.50	684.22
260.00	+1.34	685.50	684.16
270.00	+1.41	685.50	684.09
277.85	+1.62	685.50	683.88
289.13	+1.64	685.50	683.86
300.00	+2.74	685.50	682.76
310.00	+2.94	685.50	682.56
324.13	+2.22	685.50	683.28
327.90	+1.71	685.50	683.79
340.00	+1.54	685.50	683.96
345.00	+1.48	685.50	684.02
350.00	+1.47	685.51	684.04
355.00	+1.53	685.53	683.99
357.90	+1.58	685.54	683.96
360.00	+1.60	685.55	683.95

LONGSECTION – TARANA ROAD CH180.000 – CH360.000
SCALES: HORIZONTAL – 1:250 VERTICAL – 1:125

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD	CHECKED	
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

BATHURST REGIONAL COUNCIL

PROJECT	SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT
DESCRIPTION	LAYOUT PLAN & LONGSECTION CH180.00 – CH360.00

DWG No.	SHEET No.	REV.
EN12061	07	A

DRAFT

NORTH

CIVILMART "MASSBLOC" RETAINING WALL TO HEADWALL INLET/OUTLETS. SEE SHEET 26 FOR DETAILS.

STORMWATER LINE 102.

SW450 SW450 SW450 SW450 SW450

REMOVE EXISTING DRIVEWAY.

PROVIDE EARTHERN MOUNDING TO HEADWALL AS REQUIRED TO DIRECT WATER INTO CULVERT.

1m PAVEMENT WIDENING FOR GUARDRAIL INSTALLATION ON ALL APPROACHES & EXITS.

STORMWATER LINE 100.

SW1800 SW1800 SW1800

SPIRAL 50.00m

R337.000 A31.414

SPIRAL 50.00m

122° 37' 00" 80.96

STORMWATER LINE 101.

SW450 SW450

CIVILMART "MASSBLOC" RETAINING WALL TO HEADWALL INLET/OUTLETS. SEE SHEET 28 FOR DETAILS.

SHAPE TABLE DRAIN INTO HEADWALL INLET.

RHS TABLE DRAIN BASE 1500 WIDE CH450–635.

CH 360.00 CH 367.88 ST–SP CH 380.00 CH 390.00 CH 400.00 CH 410.00 SP–CU CH 417.88 CH 430.00 CH 433.59 CH 440.00 CH 449.29 CH 460.00 CH 470.00 CH 480.00 CH 490.00 SP–ST CH 499.29 CH 510.00 CH 520.00 CH 530.00 CH 540.00

LOT 61
DP 1013488
PRIVATELY OWNED

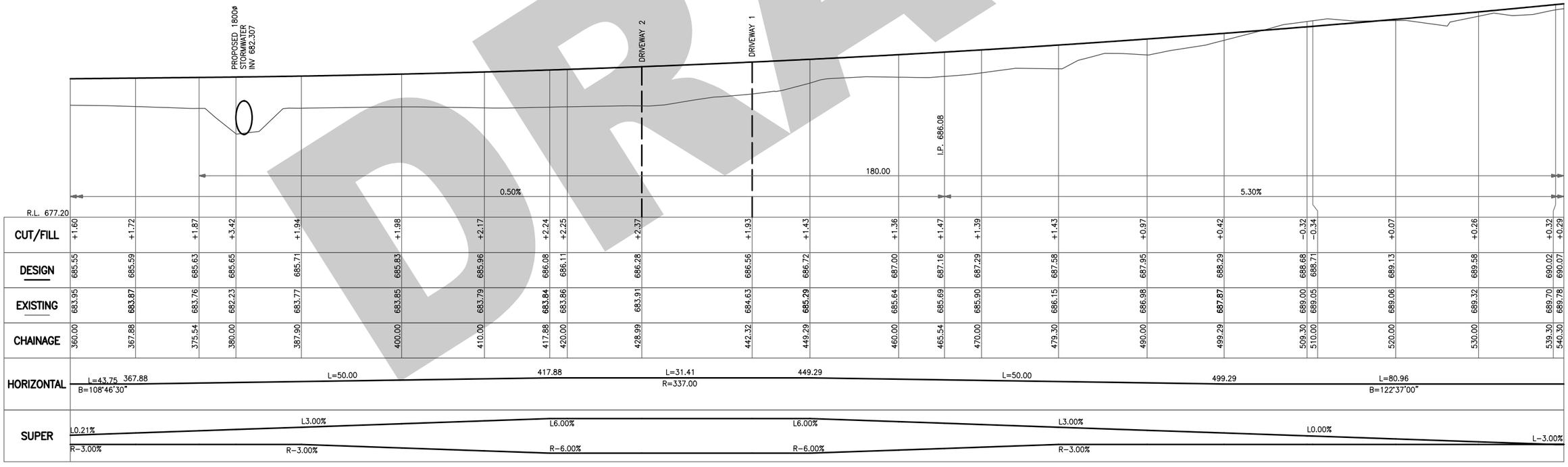
LOT 6
DP 720638
CROWN LAND

TC50 (D) — TC50 (D) — TC50 (D) — TC50 (D) — TC50 (D) — TC50 (D) — TC50 (D) — TC50 (D) — TC50 (D) — TC50 (D) — TC50 (D) — TC

LAYOUT PLAN CH360.00 – CH540.30
SCALE 1:250

NOTES:

1. CONTOUR INTERVALS SHOWN 200mm.



LONGSECTION – TARANA ROAD CH360.000 – CH540.300
SCALES: HORIZONTAL – 1:250 VERTICAL – 1:125

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD	CHECKED	
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

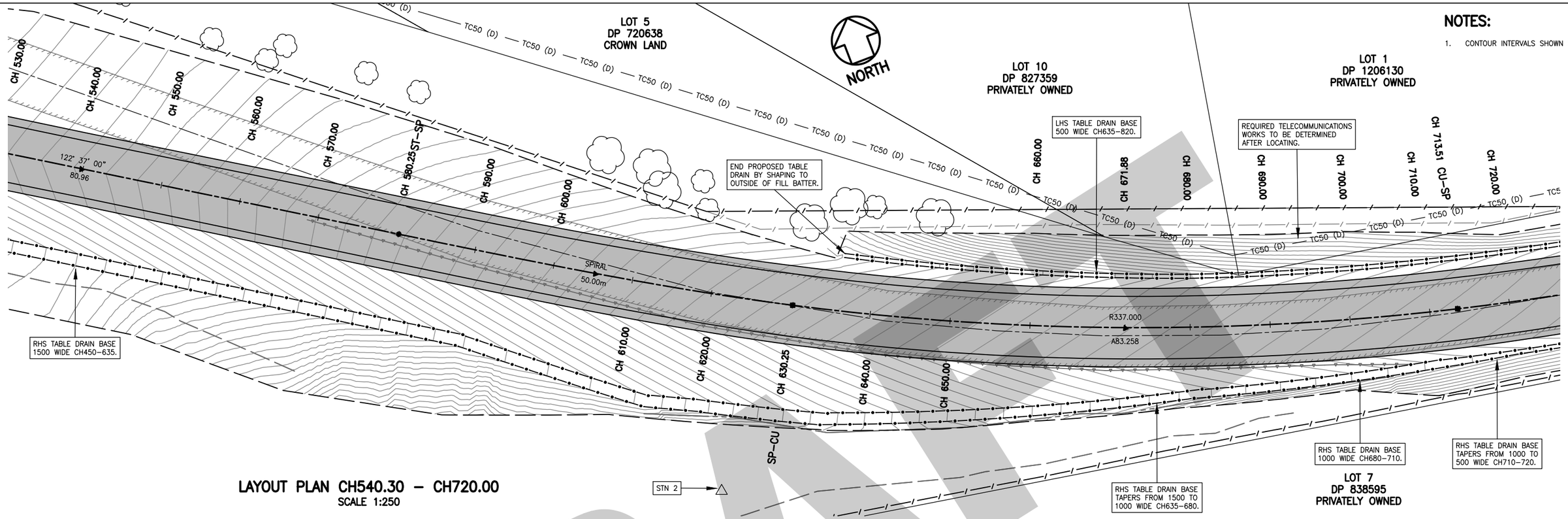
BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: LAYOUT PLAN & LONGSECTION CH360.00 – CH540.30

DWG No.	SHEET No.	REV.
EN12061	08	A

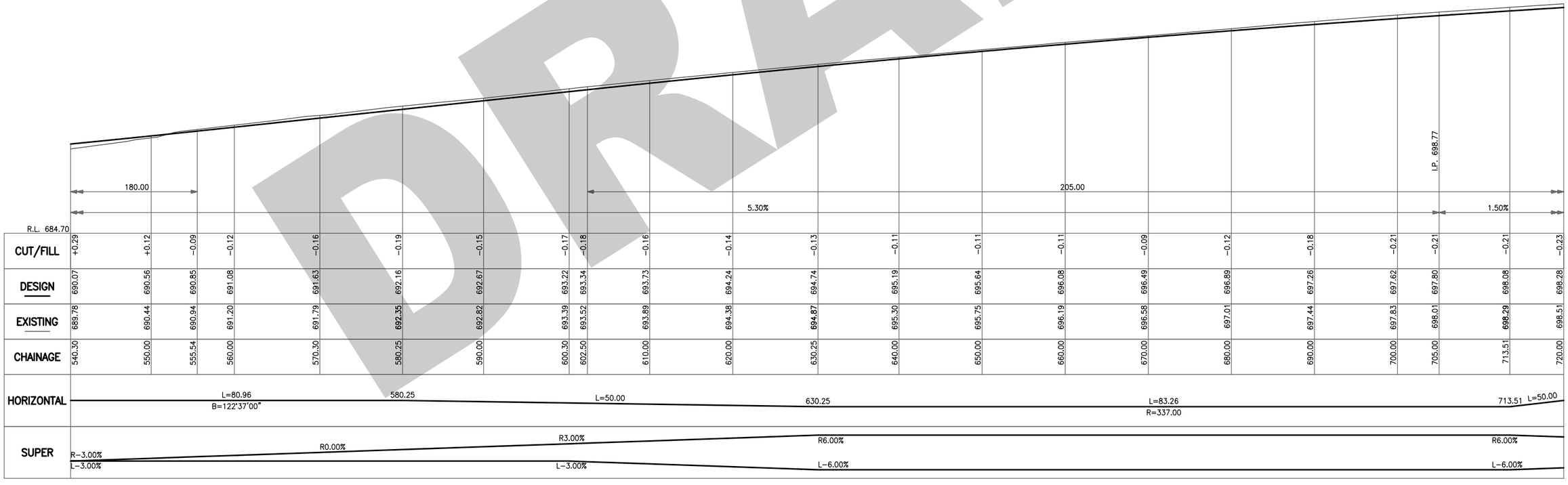
DRAFT



NOTES:

1. CONTOUR INTERVALS SHOWN 200mm.

LAYOUT PLAN CH540.30 – CH720.00
SCALE 1:250



LONGSECTION – TARANA ROAD CH540.300 – CH720.000
SCALES: HORIZONTAL – 1:250 VERTICAL – 1:125

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD	CHECKED	
DRAWN	MC		
DESIGN	MC	TECHNICAL SERVICES MANAGER	
DATE	01/09/23		
DATUM	MGA55 GDA20, AHD	DIRECTOR ENGINEERING SERVICES	

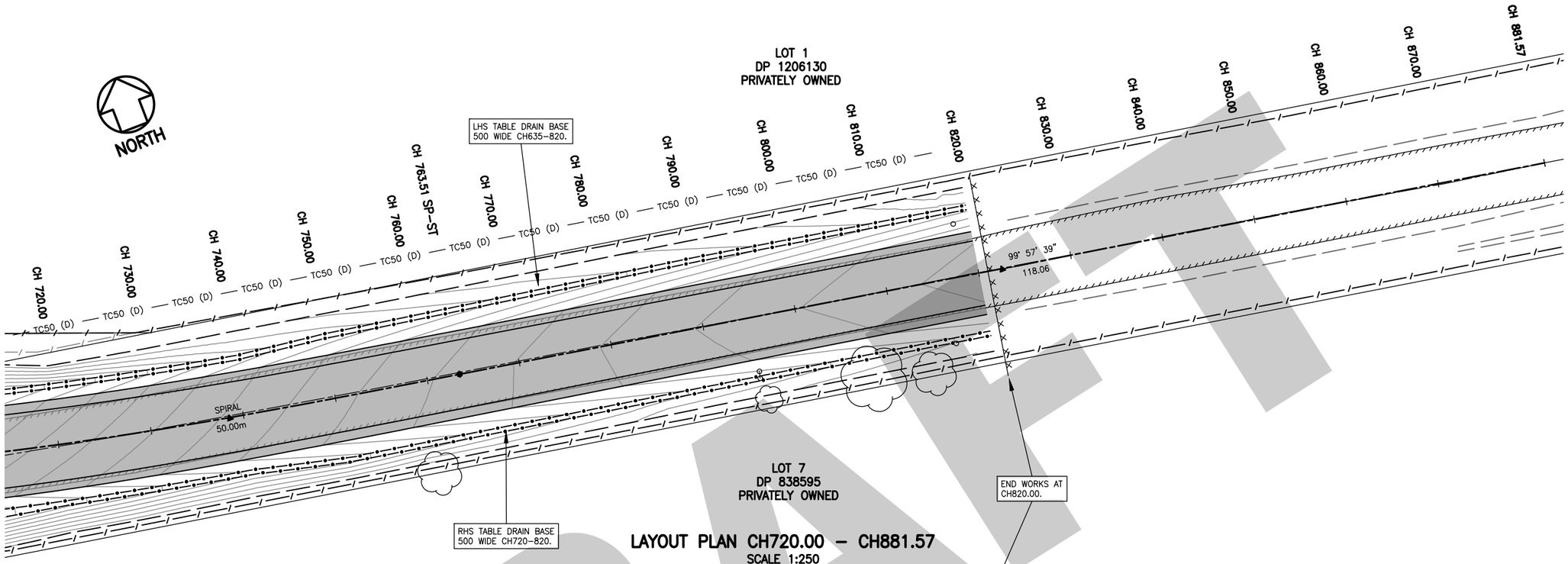
BATHURST REGIONAL COUNCIL

PROJECT		
SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT		
DESCRIPTION: LAYOUT PLAN & LONGSECTION CH540.30 – CH720.00		
DWG No. EN12061	SHEET No. 09	REV. A

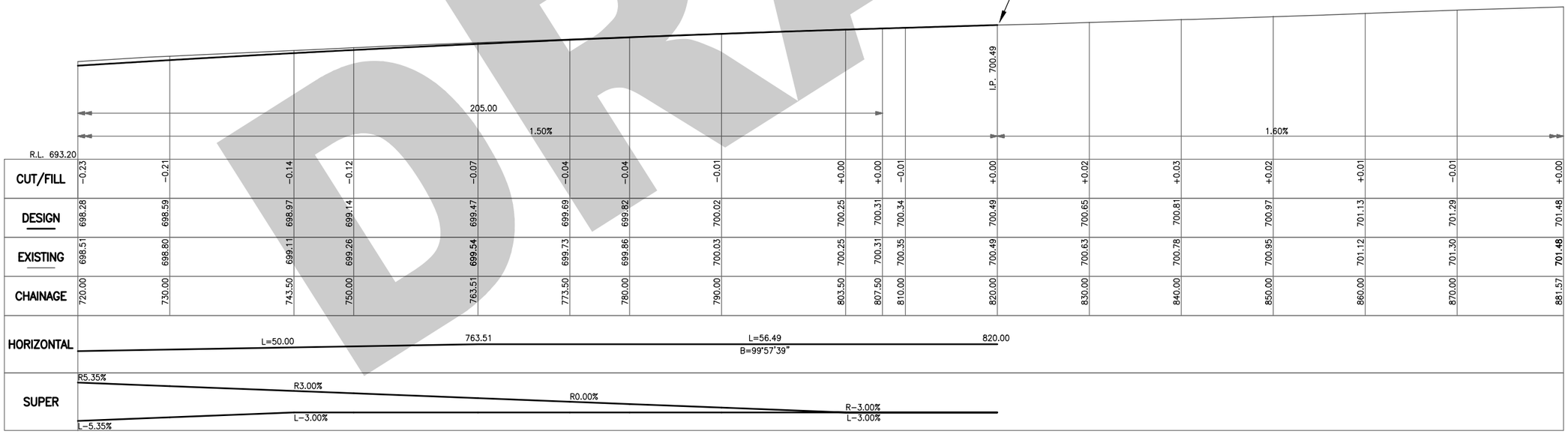
DRAFT

NOTES:

1. CONTOUR INTERVALS SHOWN 200mm.



LAYOUT PLAN CH720.00 – CH881.57
SCALE 1:250



CHAINAGE	EXISTING	DESIGN	CUT/FILL
720.00	698.51	698.28	–0.23
730.00	698.80	698.59	–0.21
743.50	699.11	698.97	–0.14
750.00	699.26	699.14	–0.12
763.51	699.54	699.47	–0.07
773.50	699.73	699.69	–0.04
780.00	699.86	699.82	–0.04
790.00	700.03	700.02	–0.01
803.50	700.25	700.25	+0.00
807.50	700.31	700.31	+0.00
810.00	700.35	700.34	–0.01
820.00	700.49	700.49	+0.00
830.00	700.63	700.65	+0.02
840.00	700.78	700.81	+0.03
850.00	700.95	700.97	+0.02
860.00	701.12	701.13	+0.01
870.00	701.30	701.29	–0.01
881.57	701.48	701.48	+0.00

LONGSECTION – TARANA ROAD CH720.000 – CH881.572
SCALES: HORIZONTAL – 1:250 VERTICAL – 1:125

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

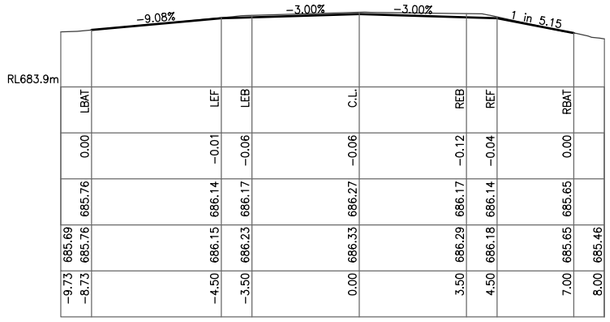
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

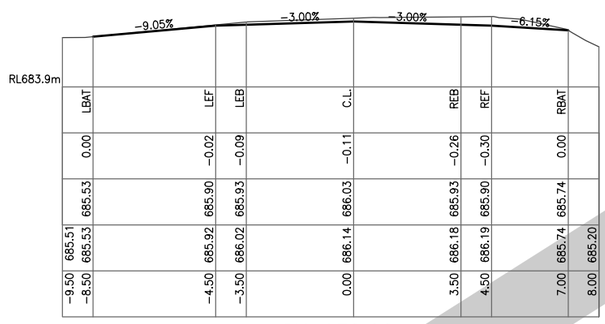
PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD
RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION
LAYOUT PLAN & LONGSECTION
CH720.00 – CH881.57

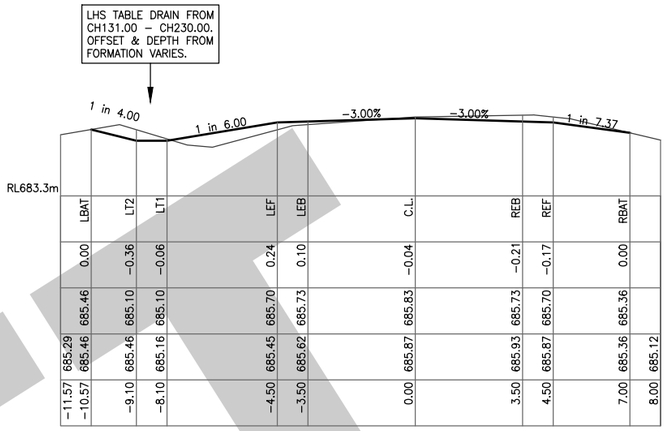
DWG No.	SHEET No.	REV.
EN12061	10	A



CH 110.00 m



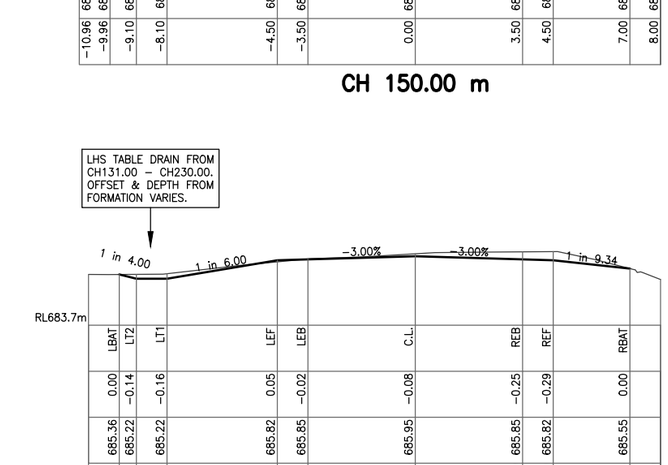
CH 130.00 m



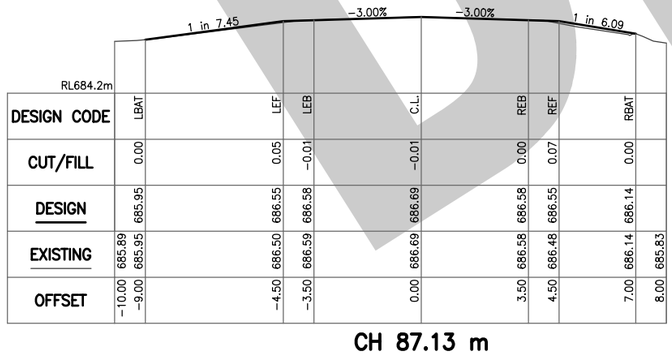
CH 160.00 m

CH 100.00 m

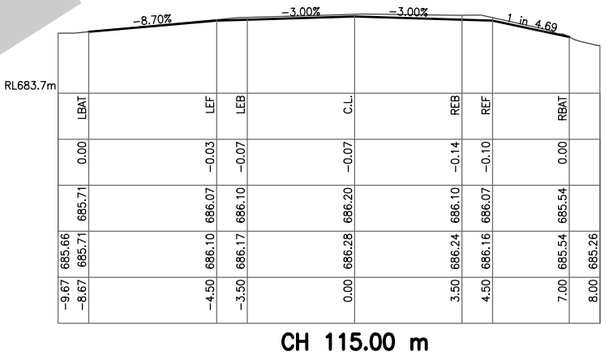
CH 120.00 m



CH 150.00 m



CH 87.13 m



CH 115.00 m

CH 140.00 m

CROSS SECTIONS – TARANA ROAD CH87.13 – CH160.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

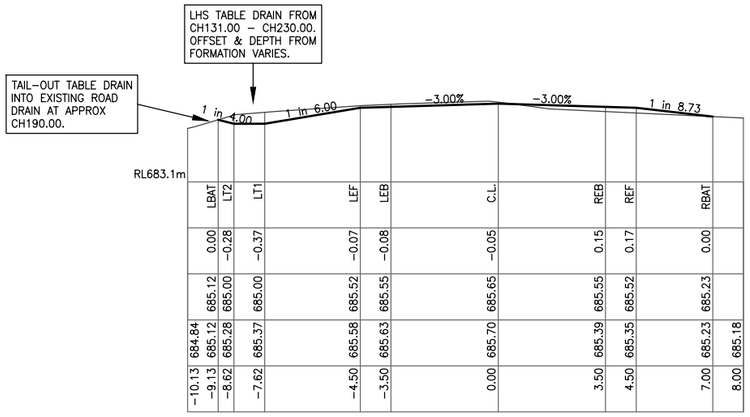
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

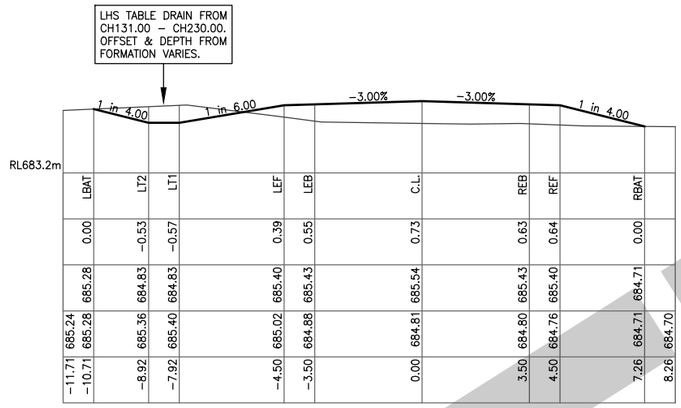
PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD
RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION
CROSS SECTIONS
CH87.13 – CH160.00

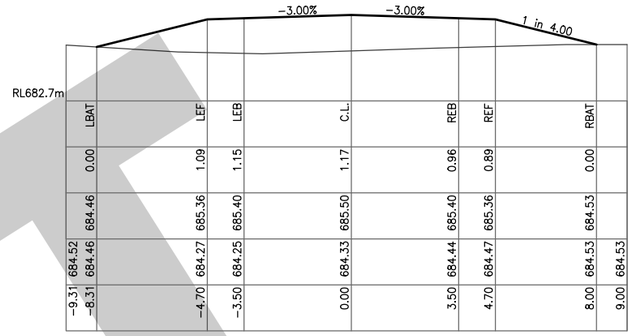
DWG No.	SHEET No.	REV.
EN12061	11	A



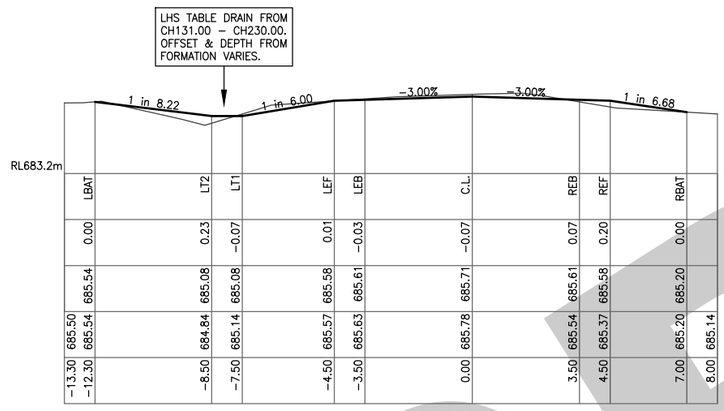
CH 190.00 m



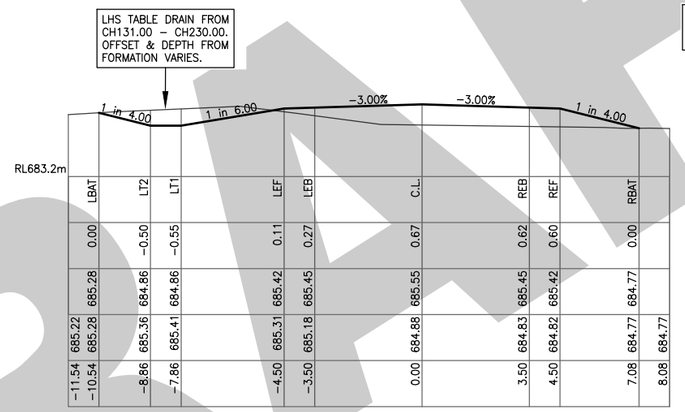
CH 215.08 m



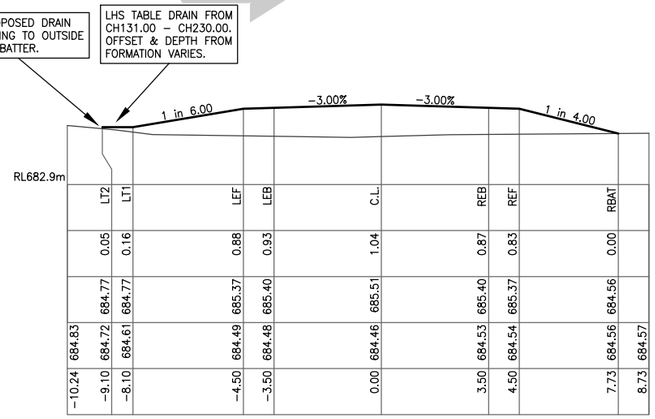
CH 240.00 m



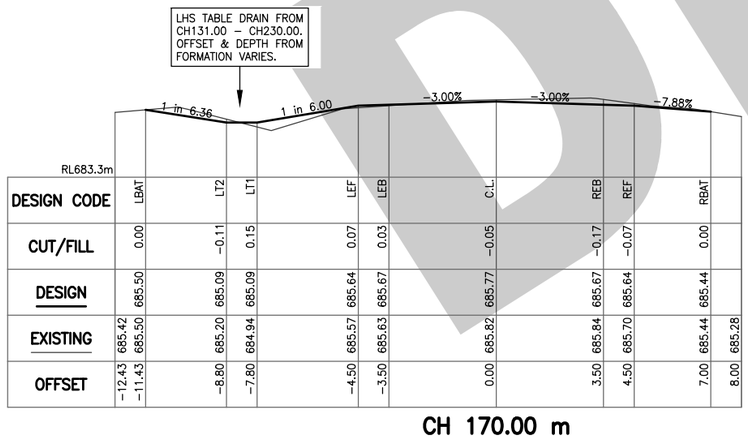
CH 180.00 m



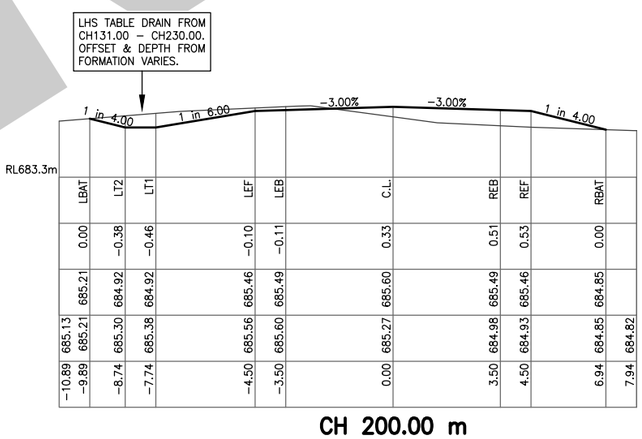
CH 210.00 m



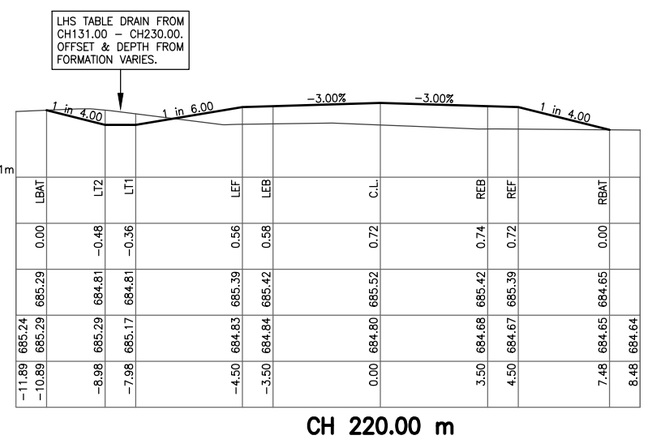
CH 230.00 m



CH 170.00 m



CH 200.00 m



CH 220.00 m

CROSS SECTIONS – TARANA ROAD CH170.00 – CH240.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10	1:1750	0 7.5 15 22.5 30 37.5
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5	1:1000	0 10 20 30 40 50
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20	1:2000	0 20 40 60 80 100
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25	1:5000	0 50 100 150 200 250

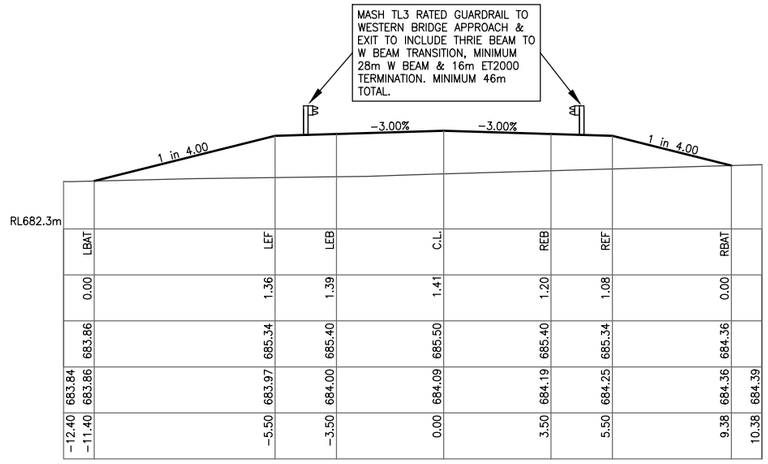
SURVEYED	HY/MD	CHECKED	
DRAWN	MC		
DESIGN	MC	TECHNICAL SERVICES MANAGER	
DATE	01/09/23		
DATUM	MGA55 GDA20, AHD	DIRECTOR ENGINEERING SERVICES	

BATHURST REGIONAL COUNCIL

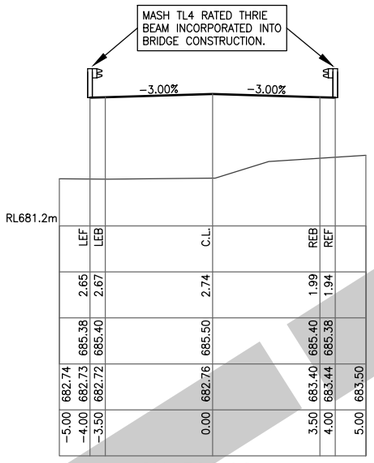
PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: CROSS SECTIONS CH170.00 – CH240.00

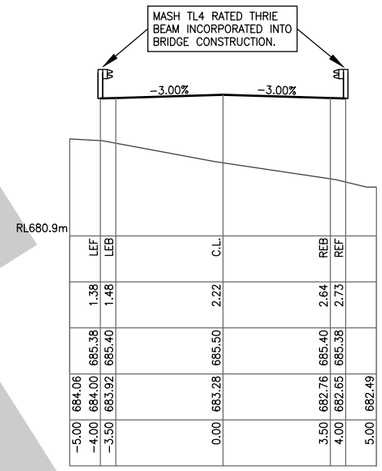
DWG No.	SHEET No.	REV.
EN12061	12	A



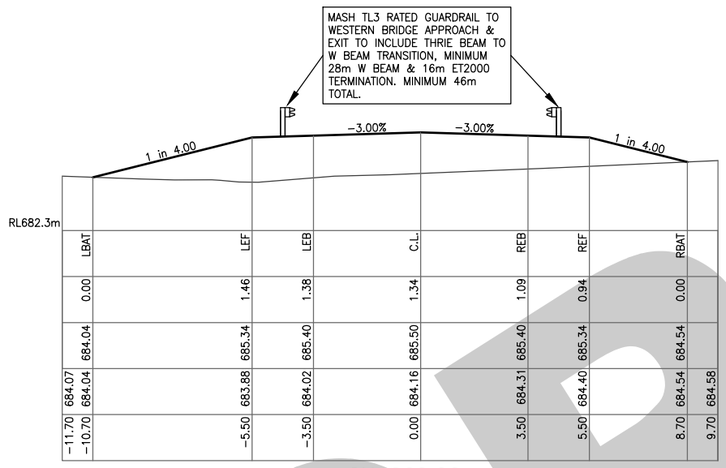
CH 270.00 m



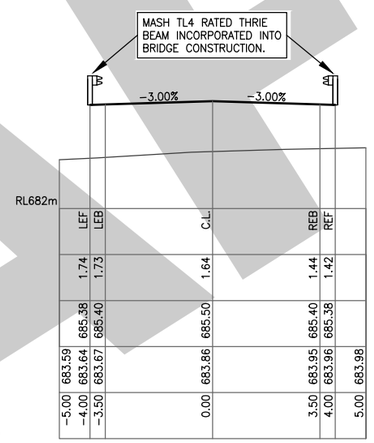
CH 300.00 m



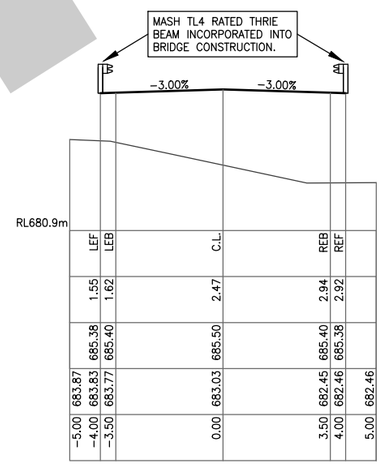
CH 324.13 m



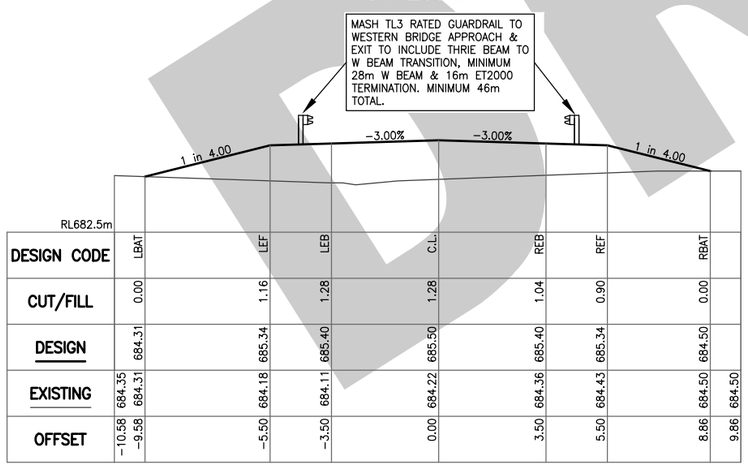
CH 260.00 m



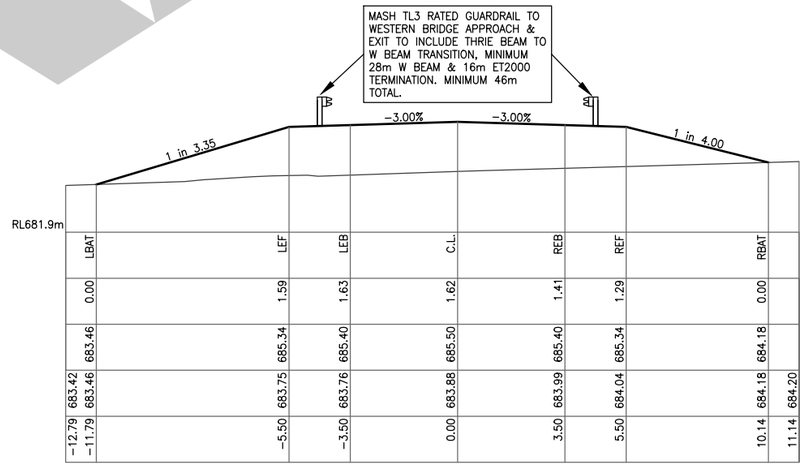
CH 289.13 m



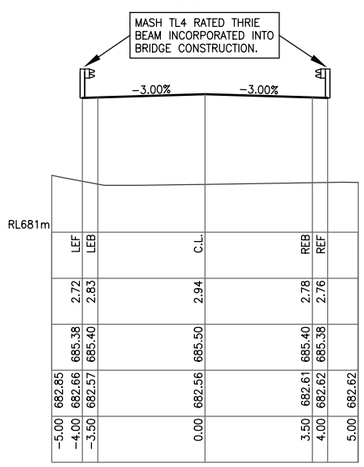
CH 320.00 m



CH 250.00 m



CH 277.85 m



CH 310.00 m

CROSS SECTIONS – TARANA ROAD CH250.00 – CH324.13

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

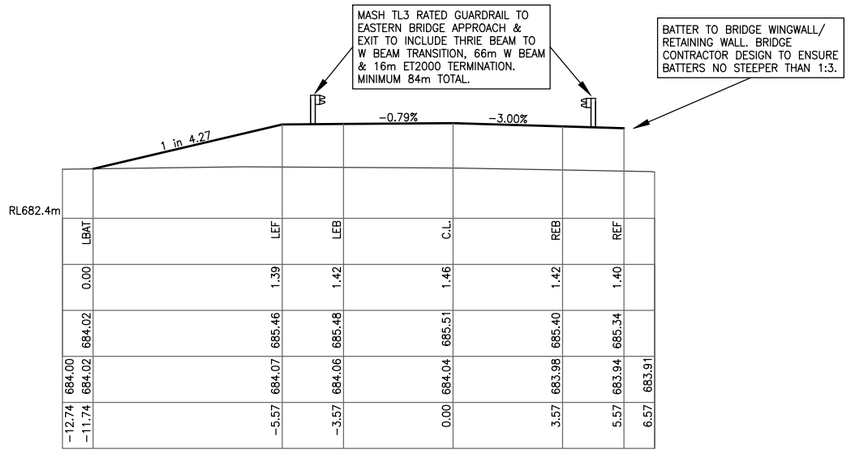
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

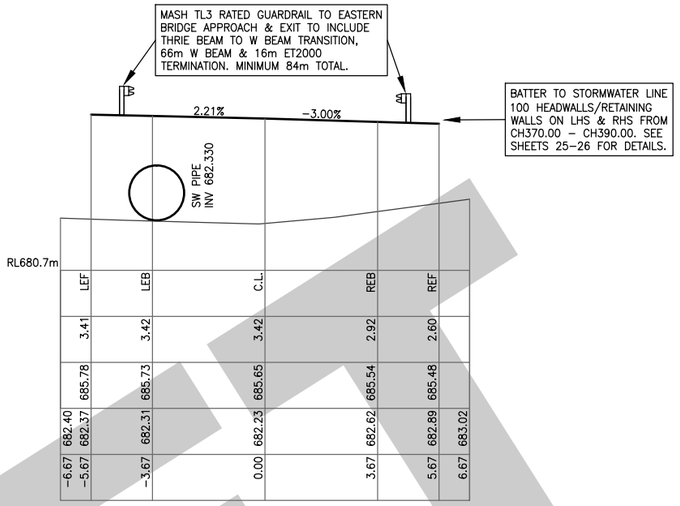
PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD
RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION
CROSS SECTIONS
CH250.00 – CH324.13

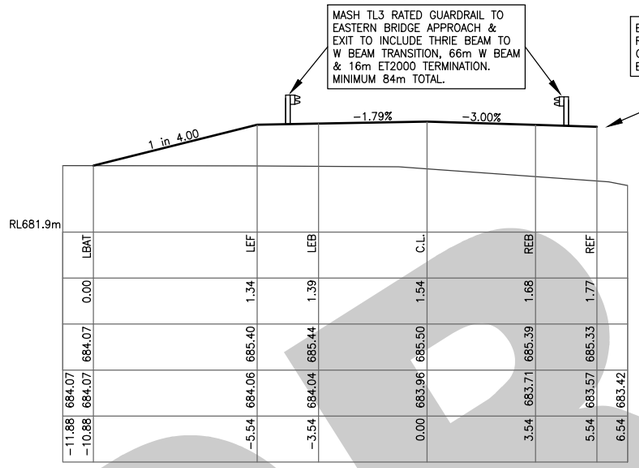
DWG No.	SHEET No.	REV.
EN12061	13	A



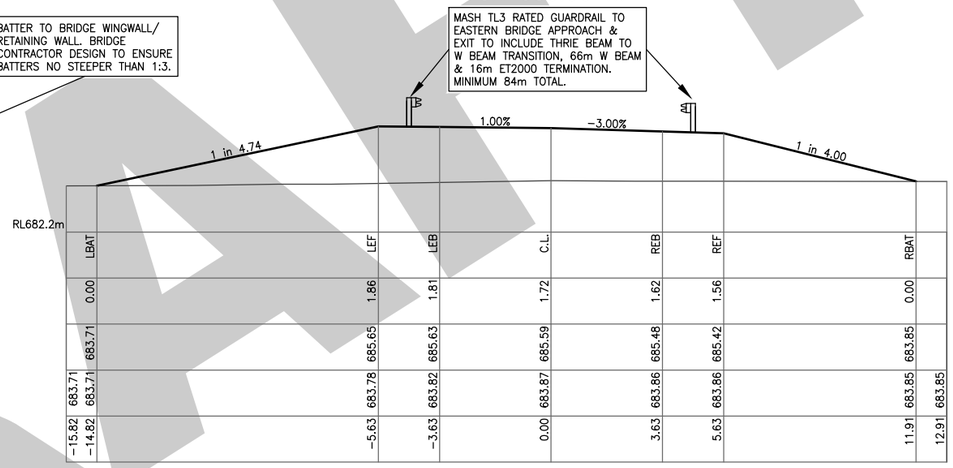
CH 350.00 m



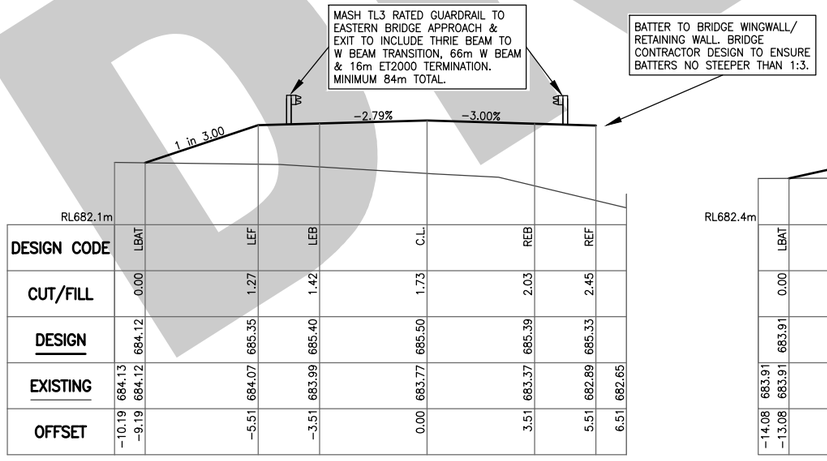
CH 380.00 m



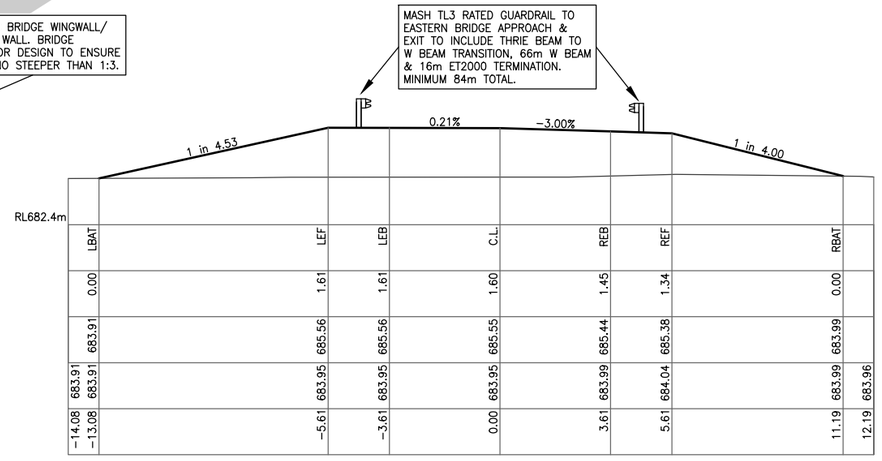
CH 340.00 m



CH 367.88 m



CH 330.00 m



CH 360.00 m

CROSS SECTIONS – TARANA ROAD CH330.00 – CH380.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

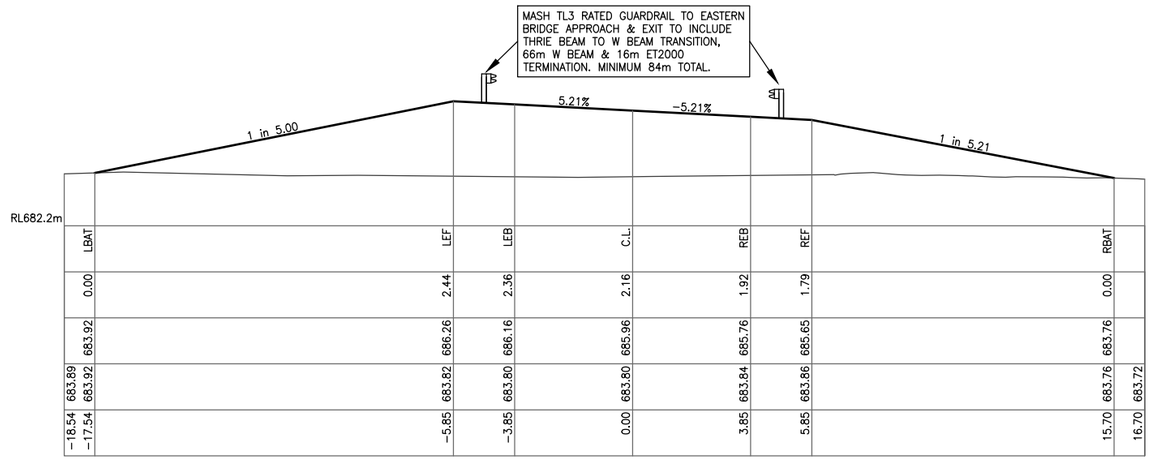
SURVEYED	HY/MD	CHECKED	
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

BATHURST REGIONAL COUNCIL

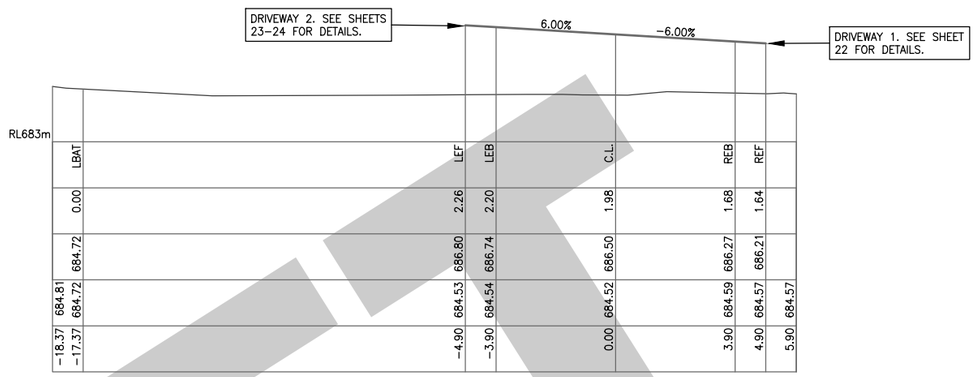
PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: CROSS SECTIONS CH330.00 – CH380.00

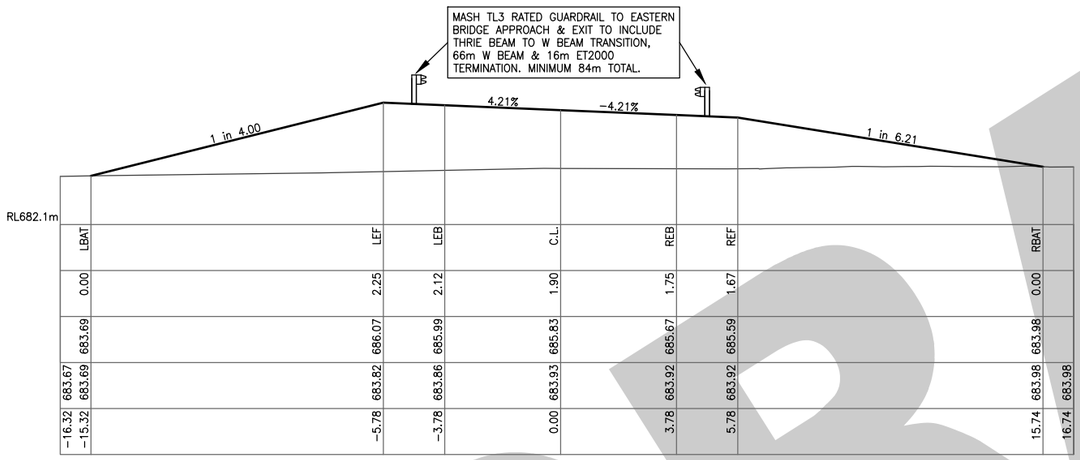
DWG No.	SHEET No.	REV.
EN12061	14	A



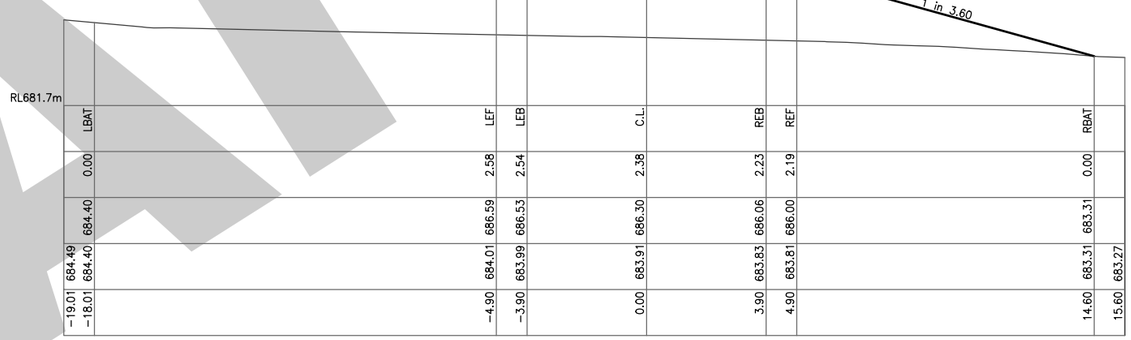
CH 410.00 m



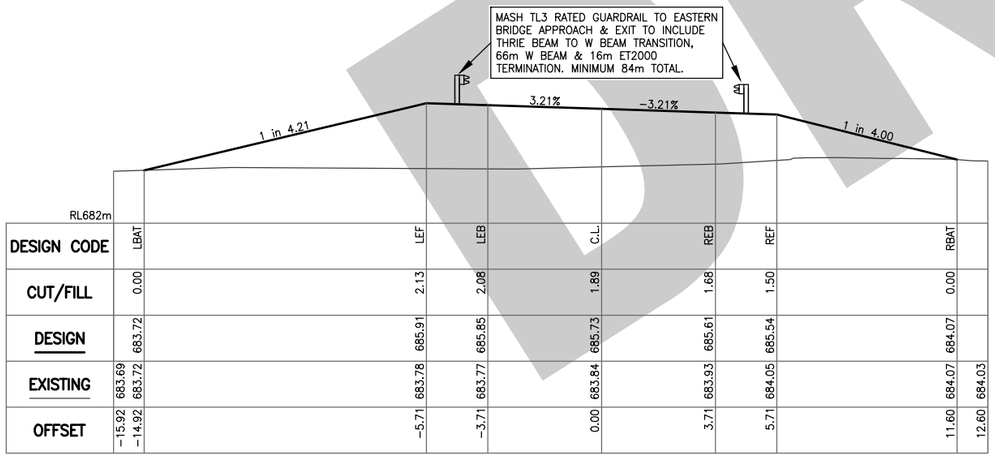
CH 440.00 m



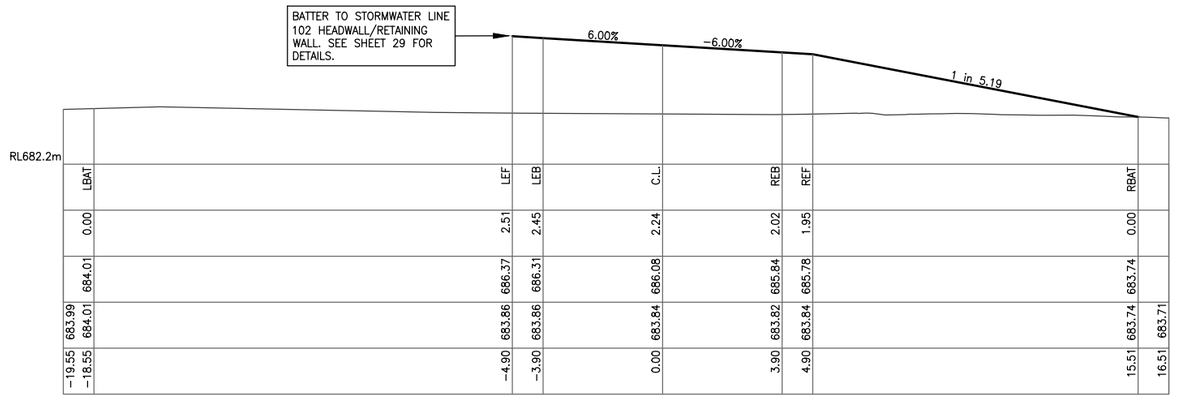
CH 400.00 m



CH 430.00 m



CH 390.00 m



CH 417.88 m

CROSS SECTIONS – TARANA ROAD CH390.00 – CH440.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0	0.1	0.2	0.3	0.4	0.5	1:200	0	2	4	6	8	10	1:750	0	7.5	15	22.5	30	37.5			
1:20	0	0.2	0.4	0.6	0.8	1.0	1:250	0	2.5	5	7.5	10	12.5	1:1000	0	10	20	30	40	50			
1:50	0	0.5	1.0	1.5	2.0	2.5	1:400	0	4	8	12	16	20	1:2000	0	20	40	60	80	100			
1:100	0	1	2	3	4	5	1:500	0	5	10	15	20	25	1:5000	0	50	100	150	200	250			

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

DIRECTOR ENGINEERING SERVICES

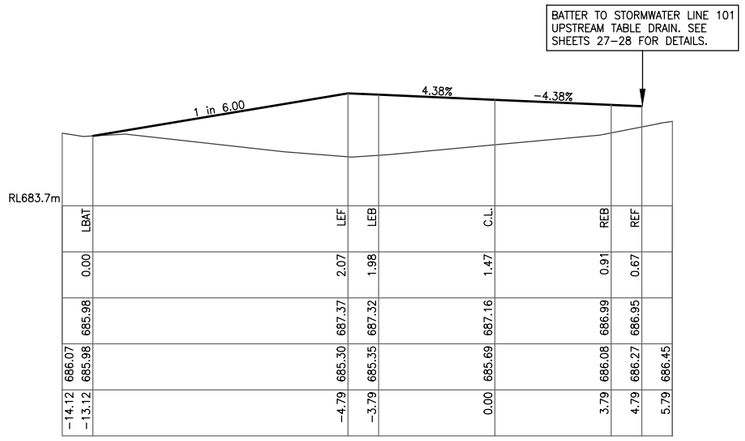
BATHURST REGIONAL COUNCIL

PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD
RECONSTRUCTION & APPROACH REALIGNMENT

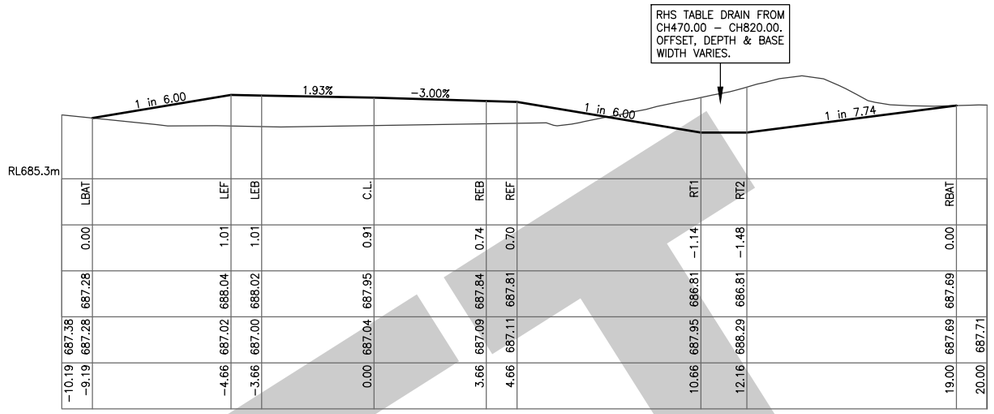
DESCRIPTION
CROSS SECTIONS
CH390.00 – CH440.00

DWG No.	SHEET No.	REV.
EN12061	15	A

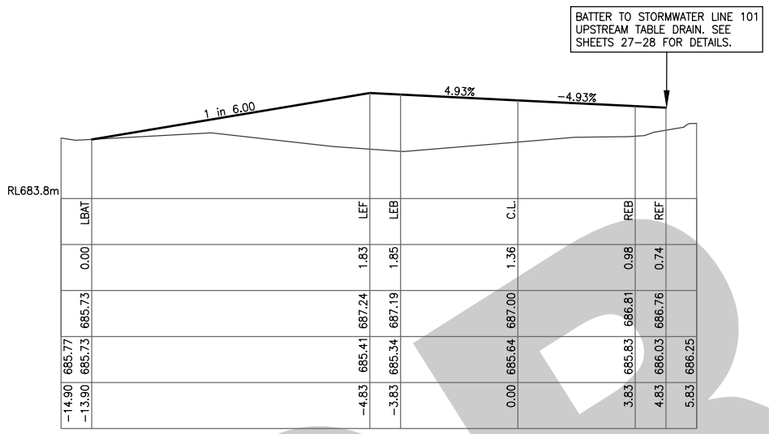
DRAFT



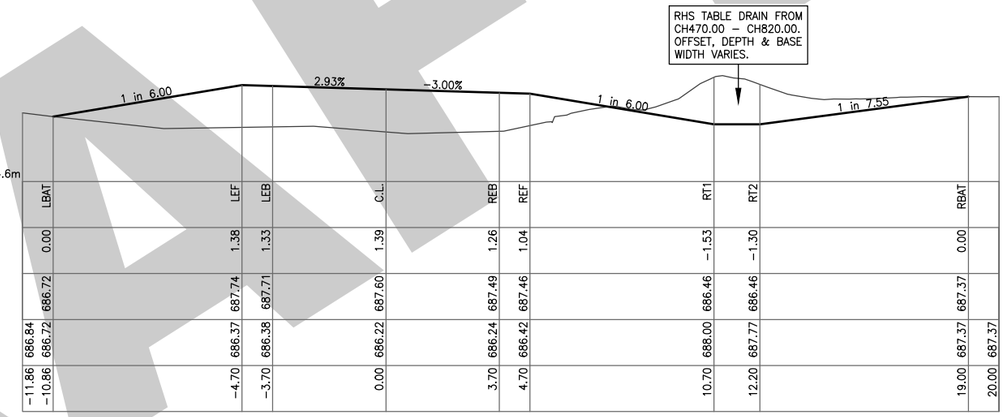
CH 465.54 m



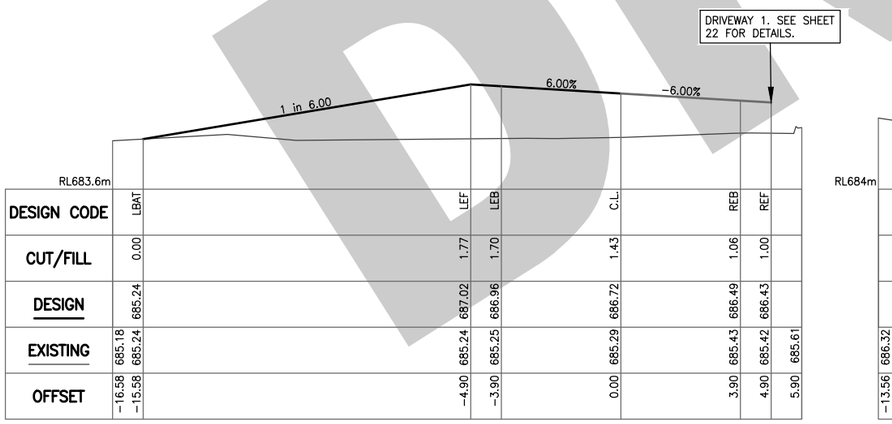
CH 490.00 m



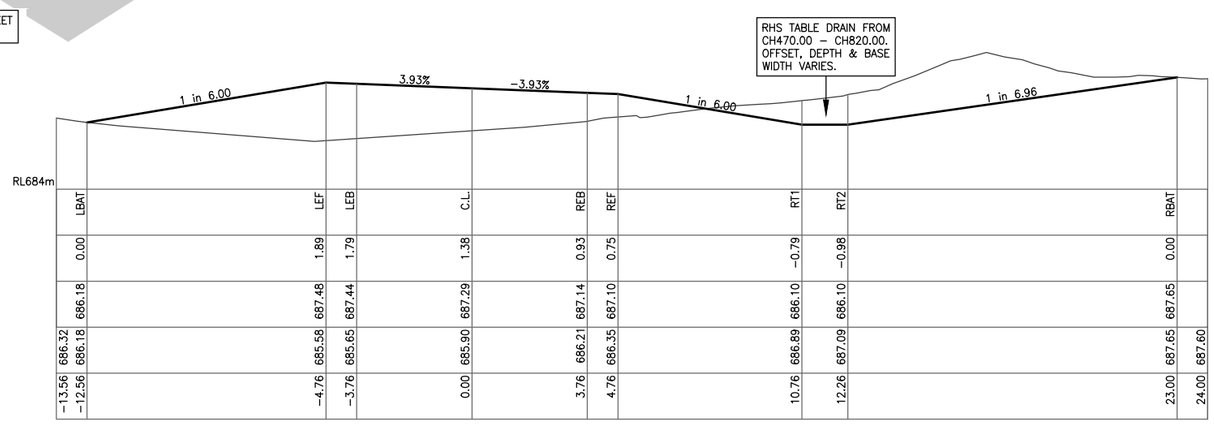
CH 460.00 m



CH 480.00 m



CH 449.29 m



CH 470.00 m

CROSS SECTIONS – TARANA ROAD CH449.29 – CH490.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

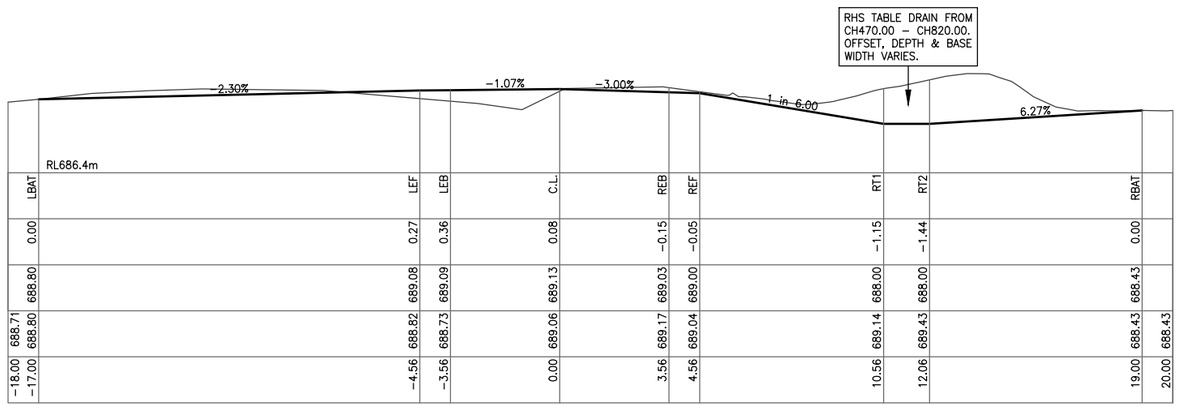
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

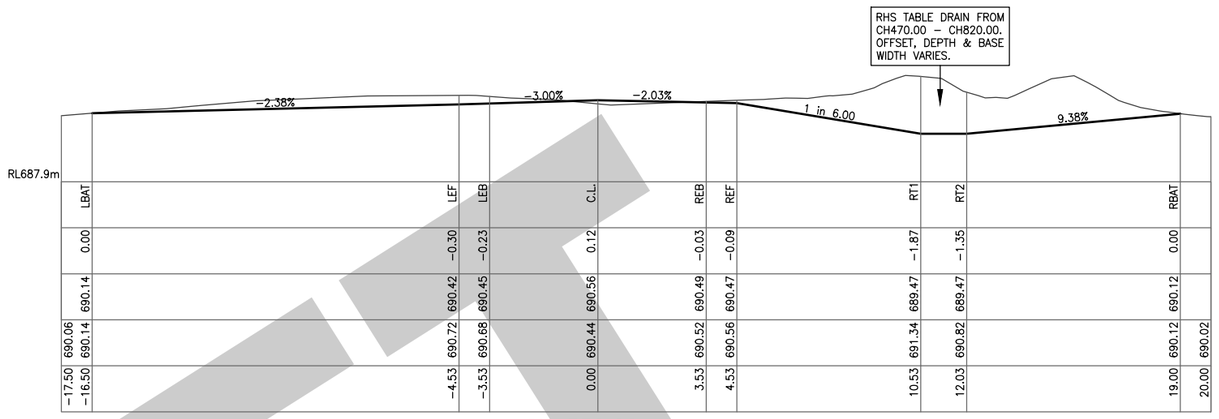
DESCRIPTION: CROSS SECTIONS CH449.29 – CH490.00

DWG No.	SHEET No.	REV.
EN12061	16	A



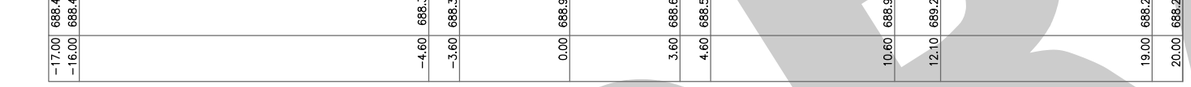
	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	0.27	0.36	0.08	-0.15	-0.05	-1.15	-1.44	0.00
688.71	688.80	688.82	689.09	689.13	689.03	689.00	688.00	688.00	688.43	
688.71	688.80	688.82	688.73	689.06	689.17	689.04	689.14	689.43	688.43	688.43
-18.00	-17.00	-4.56	-3.56	0.00	3.56	4.56	10.56	12.06	19.00	20.00

CH 520.00 m



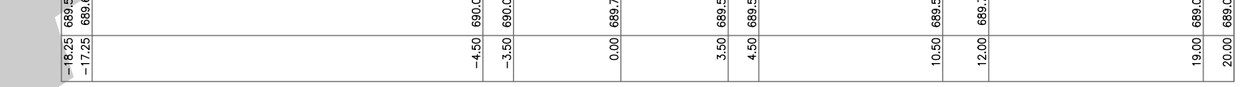
	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	-0.30	-0.23	0.12	-0.03	-0.09	-1.87	-1.35	0.00
690.06	690.14	690.42	690.45	690.56	690.49	690.47	689.47	689.47	690.12	
690.06	690.14	690.72	690.68	690.44	690.52	690.56	691.34	690.82	690.12	690.02
-17.50	-16.50	-4.53	-3.53	0.00	3.53	4.53	10.53	12.03	19.00	20.00

CH 550.00 m



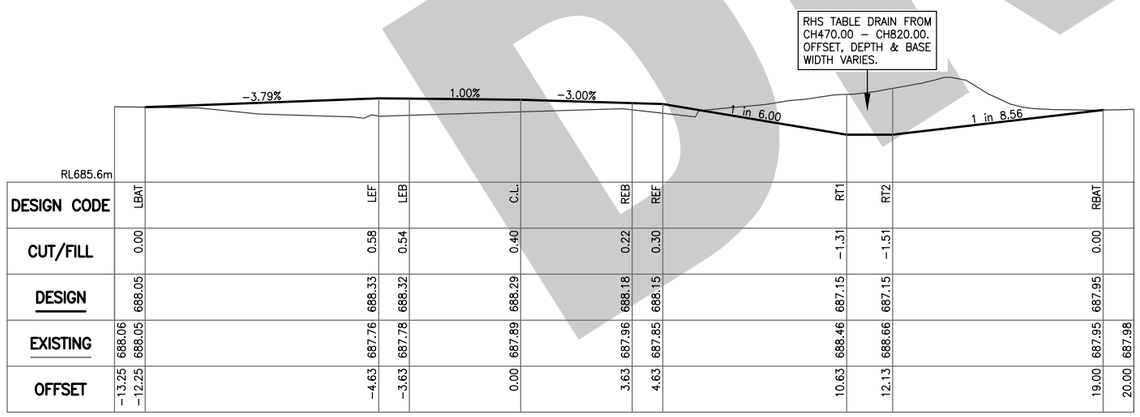
	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	0.40	0.33	-0.27	0.00	0.07	-1.34	-1.65	0.00
688.49	688.49	688.71	688.71	688.71	688.60	688.57	687.57	687.57	688.22	
688.42	688.49	688.31	688.38	688.98	688.60	688.50	688.92	689.22	688.22	688.24
-17.00	-16.00	-4.60	-3.60	0.00	3.60	4.60	10.60	12.10	19.00	20.00

CH 510.00 m



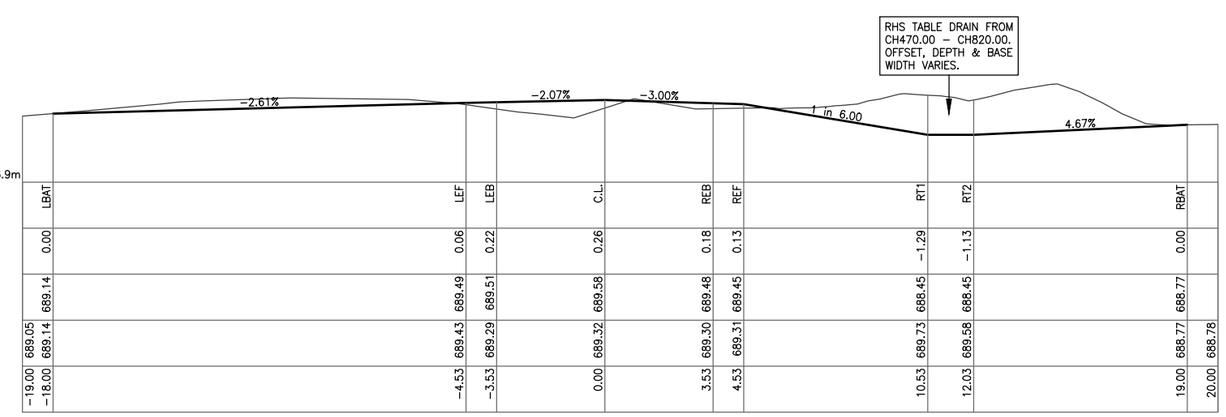
	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	-0.17	-0.07	0.30	0.40	0.37	-0.61	-0.79	0.00
689.52	689.61	689.92	689.95	690.06	689.95	689.92	688.92	688.92	689.03	
689.52	689.61	690.09	690.02	689.76	689.55	689.55	689.53	689.71	689.03	689.02
-18.25	-17.25	-4.50	-3.50	0.00	3.50	4.50	10.50	12.00	19.00	20.00

CH 540.00 m



DESIGN CODE	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
CUT/FILL	0.00	0.58	0.54	0.40	0.22	0.30	-1.31	-1.51	0.00
DESIGN	688.05	688.33	688.32	688.29	688.18	688.15	687.15	687.15	687.95	
EXISTING	688.06	687.76	687.78	687.89	687.96	687.85	688.46	688.66	687.95	687.98
OFFSET	-13.25	-4.63	-3.63	0.00	3.63	4.63	10.63	12.13	19.00	20.00

CH 499.29 m



	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	0.06	0.22	0.26	0.18	0.13	-1.29	-1.13	0.00
689.14	689.14	689.49	689.51	689.58	689.48	689.45	688.45	688.45	688.77	
689.05	689.14	689.43	689.29	689.32	689.30	689.31	689.73	689.58	688.77	688.78
-19.00	-18.00	-4.53	-3.53	0.00	3.53	4.53	10.53	12.03	19.00	20.00

CH 530.00 m

CROSS SECTIONS – TARANA ROAD CH499.29 – CH550.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

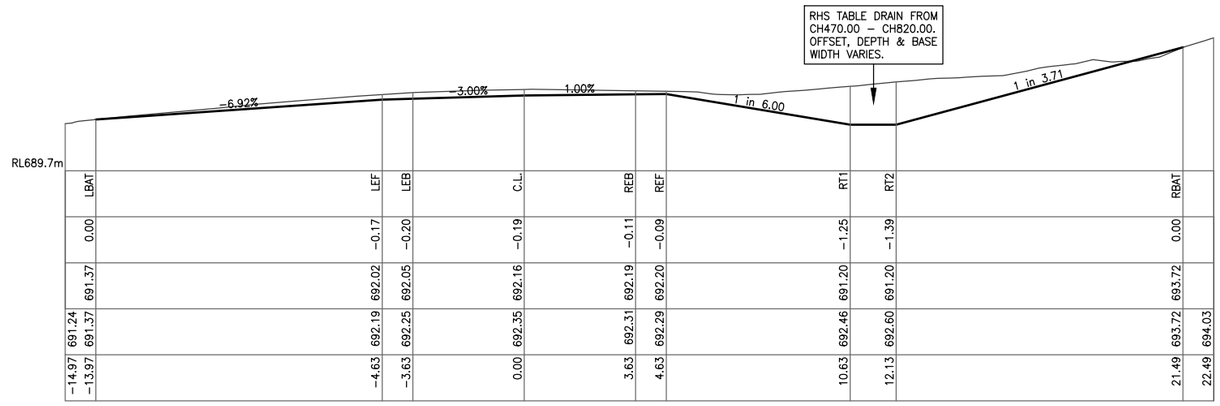
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD
RECONSTRUCTION & APPROACH REALIGNMENT

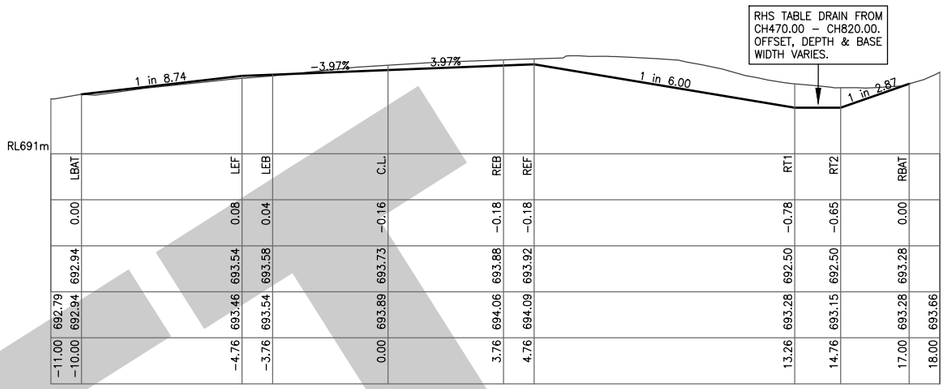
DESCRIPTION
CROSS SECTIONS
CH499.29 – CH550.00

DWG No.	SHEET No.	REV.
EN12061	17	A



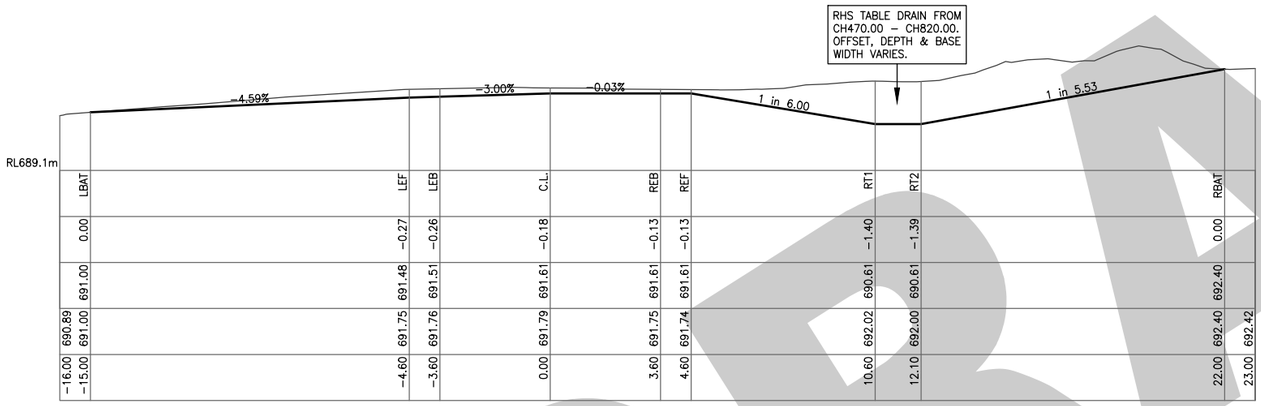
	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	-0.17	-0.20	-0.19	-0.11	-0.09	-1.25	-1.39	0.00
	691.37	692.02	692.05	692.16	692.19	692.20	691.20	691.20	693.72
691.24	691.37	692.19	692.25	692.35	692.31	692.29	692.46	692.60	693.72	694.03
-14.97	-13.97	-4.63	-3.63	0.00	3.63	4.63	10.63	12.13	21.49	22.49

CH 580.25 m



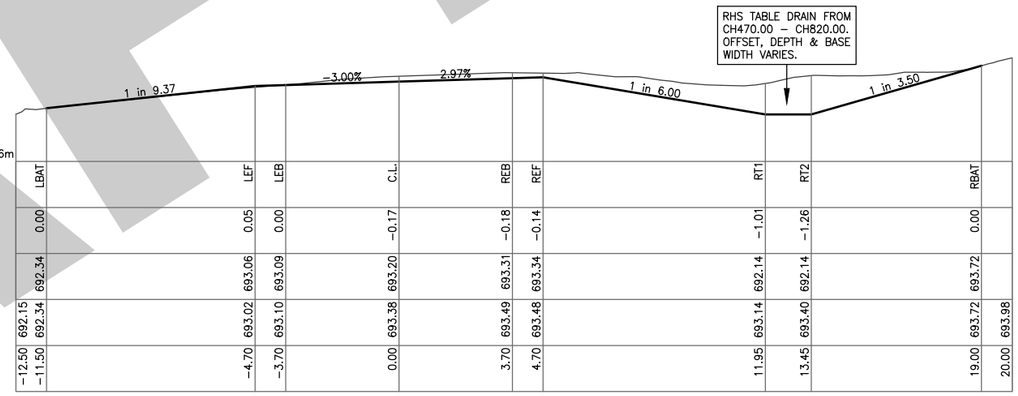
	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	0.08	0.04	-0.16	-0.18	-0.18	-0.78	-0.65	0.00
	692.94	693.54	693.58	693.73	693.88	693.92	692.50	692.50	693.28
692.79	692.94	693.46	693.54	693.89	694.06	694.09	693.28	693.15	693.28	693.66
-11.00	-10.00	-4.76	-3.76	0.00	3.76	4.76	13.26	14.76	17.00	18.00

CH 610.00 m



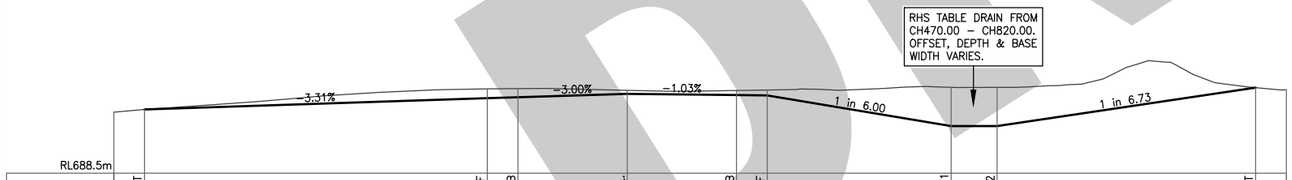
	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	-0.27	-0.26	-0.18	-0.13	-0.13	-1.40	-1.39	0.00
	691.00	691.48	691.51	691.61	691.61	691.61	690.61	690.61	692.40
690.89	691.00	691.75	691.76	691.79	691.75	691.74	692.02	692.00	692.40	692.42
-16.00	-15.00	-4.60	-3.60	0.00	3.60	4.60	10.60	12.10	22.00	23.00

CH 570.00 m



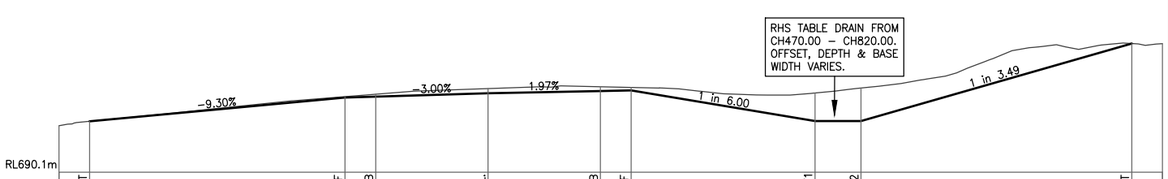
	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	0.05	0.00	-0.17	-0.18	-0.14	-1.01	-1.26	0.00
	692.34	693.06	693.09	693.20	693.31	693.34	692.14	692.14	693.72
692.15	692.34	693.02	693.10	693.38	693.49	693.48	693.14	693.40	693.72	693.98
-12.50	-11.50	-4.70	-3.70	0.00	3.70	4.70	11.95	13.45	19.00	20.00

CH 600.00 m



	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
DESIGN CODE									
CUT/FILL	0.00	-0.30	-0.28	-0.12	-0.15	-0.17	-1.26	-1.26	0.00
DESIGN	690.58	690.95	690.98	691.08	691.05	691.04	690.04	690.04	691.29
EXISTING	690.49 690.58	691.25	691.26	691.20	691.19	691.21	691.30	691.30	691.29	691.22
OFFSET	-16.75 -15.75	-4.57	-3.57	0.00	3.57	4.57	10.57	12.07	20.50	21.50

CH 560.00 m



	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	-0.03	-0.08	-0.15	-0.14	-0.10	-0.92	-1.08	0.00
	691.76	692.53	692.56	692.67	692.75	692.77	691.77	691.77	694.30
691.61	691.76	692.56	692.64	692.82	692.89	692.86	692.68	692.84	694.30	694.29
-14.00	-13.00	-4.67	-3.67	0.00	3.67	4.67	10.67	12.17	21.00	22.00

CH 590.00 m

CROSS SECTIONS – TARANA ROAD CH560.00 – CH610.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

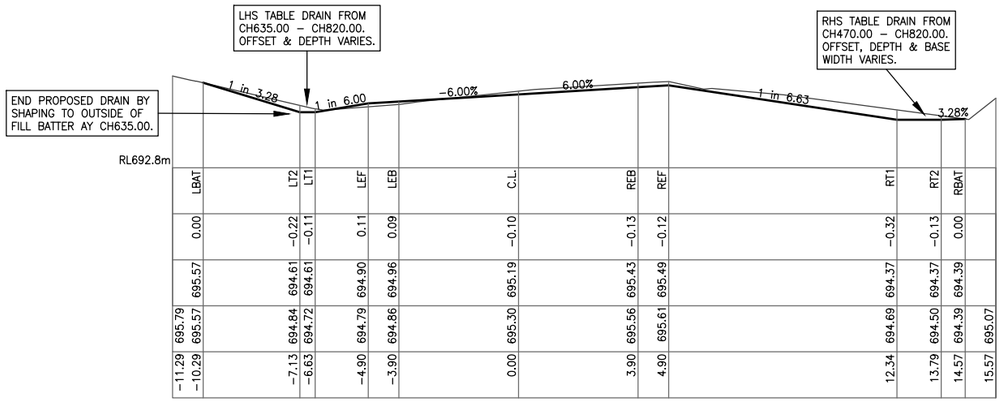
SURVEYED	HY/MD	CHECKED	
DRAWN	MC		
DESIGN	MC	TECHNICAL SERVICES MANAGER	
DATE	01/09/23		
DATUM	MGA55 GDA20, AHD	DIRECTOR ENGINEERING SERVICES	

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

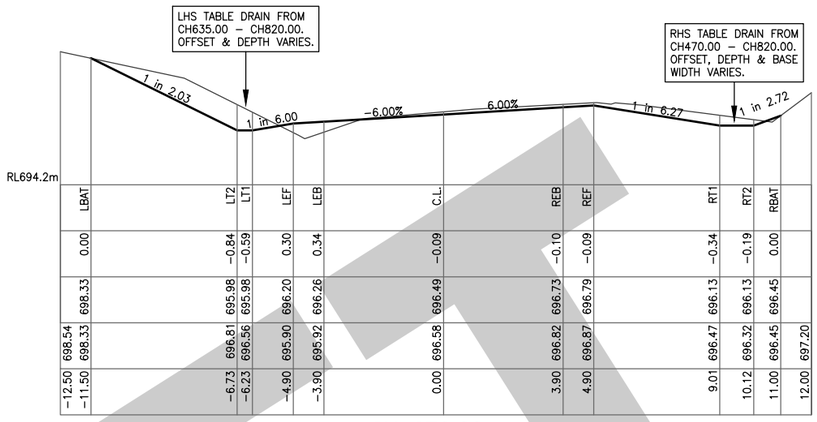
DESCRIPTION: CROSS SECTIONS CH560.00 – CH610.00

DWG No.	SHEET No.	REV.
EN12061	18	A



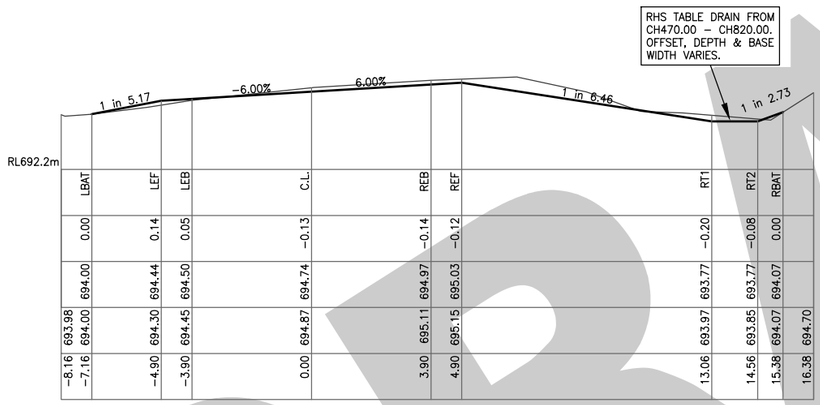
	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	-0.22	-0.11	0.11	0.09	-0.10	-0.13	-0.12	-0.32	-0.13	0.00	
	695.57	694.61	694.61	694.90	694.96	695.19	695.43	695.49	694.37	694.37	694.39	
695.79	695.57	694.84	694.72	694.79	694.86	695.30	695.56	695.61	694.69	694.50	694.39	695.07
-11.29	-10.29	-7.13	-6.63	-4.90	-3.90	0.00	3.90	4.90	12.34	13.79	14.57	15.57

CH 640.00 m



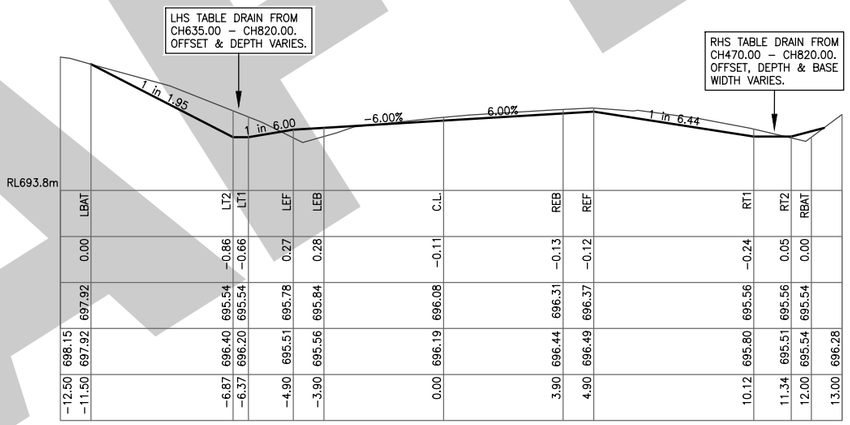
	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	-0.84	-0.59	0.30	0.34	-0.09	-0.10	-0.09	-0.34	-0.19	0.00	
	698.33	695.98	695.98	696.20	696.26	696.49	696.73	696.79	696.13	696.13	696.45	
698.54	698.33	696.81	696.56	695.90	695.92	696.58	696.82	696.87	696.47	696.32	696.45	697.20
-12.50	-11.50	-6.73	-6.23	-4.90	-3.90	0.00	3.90	4.90	9.01	10.12	11.00	12.00

CH 670.00 m



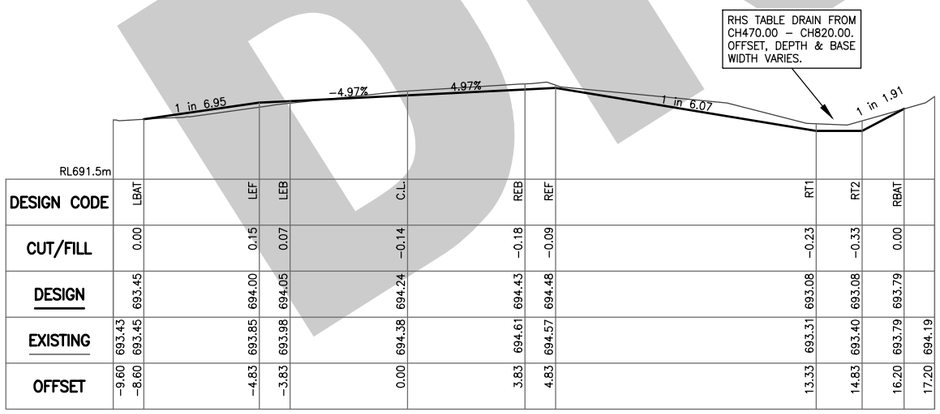
	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	0.14	0.05	-0.13	-0.14	-0.12	-0.20	-0.08	0.00	
	694.00	694.44	694.50	694.74	695.03		693.77	693.77	694.07	
693.98	694.00	694.30	694.45	694.87	695.11	695.15	693.97	693.85	694.07	694.70
-8.16	-7.16	-4.90	-3.90	0.00	3.90	4.90	13.06	14.56	15.38	16.38

CH 630.25 m



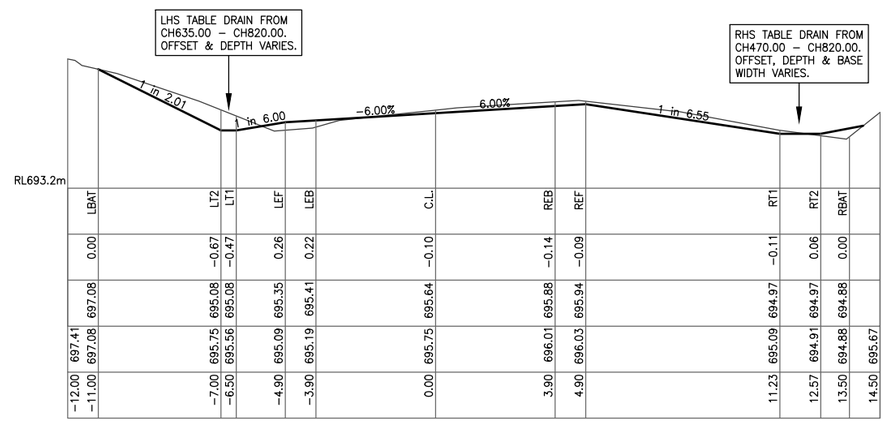
	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	-0.86	-0.66	0.27	0.28	-0.11	-0.13	-0.12	-0.24	0.05	0.00	
	697.92	695.54	695.54	695.78	695.84	696.08	696.31	696.37	695.56	695.56	695.54	
698.15	697.92	696.40	696.20	695.51	695.56	696.19	696.44	696.49	695.80	695.51	695.54	696.28
-12.50	-11.50	-6.87	-6.37	-4.90	-3.90	0.00	3.90	4.90	10.12	11.34	12.00	13.00

CH 660.00 m



	LBAT	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
DESIGN CODE										
CUT/FILL	0.00	0.15	0.07	-0.14	-0.18	-0.09	-0.23	-0.33	0.00	
DESIGN	693.45	694.00	694.05	694.24	694.43	694.48	693.08	693.08	693.79	
EXISTING	693.43	693.85	693.98	694.38	694.61	694.57	693.31	693.40	693.79	694.19
OFFSET	-9.60	-4.83	-3.83	0.00	3.83	4.83	13.33	14.83	16.20	17.20

CH 620.00 m



	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	-0.67	-0.47	0.26	0.22	-0.10	-0.14	-0.09	-0.11	0.06	0.00	
	697.08	695.08	695.08	695.35	695.41	695.64	695.88		694.97	694.97	694.88	
697.41	697.08	695.75	695.56	695.09	695.19	695.75	696.01	696.03	695.09	694.91	694.88	695.67
-12.00	-11.00	-7.00	-6.50	-4.90	-3.90	0.00	3.90	4.90	11.23	12.57	13.50	14.50

CH 650.00 m

CROSS SECTIONS – TARANA ROAD CH620.00 – CH670.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
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CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

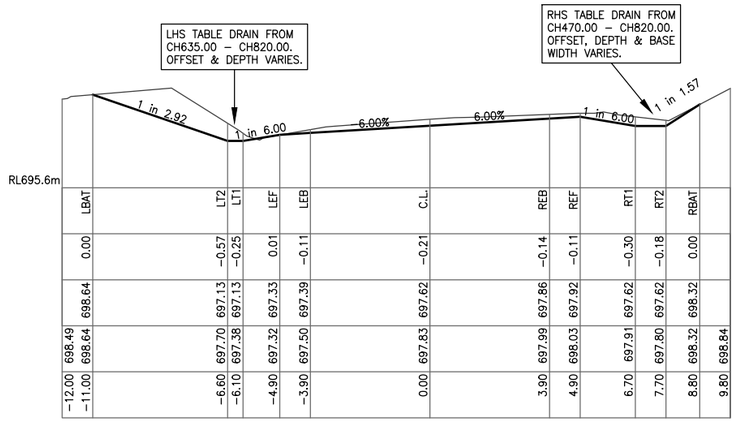
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: CROSS SECTIONS CH620.00 – CH670.00

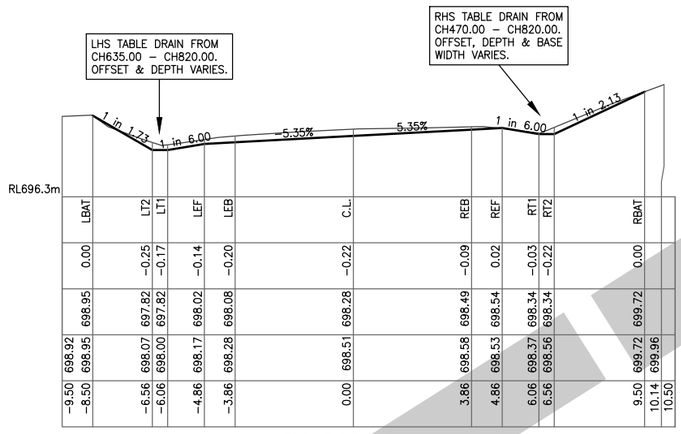
DWG No.	SHEET No.	REV.
EN12061	19	A



RL695.6m

	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	−0.57	−0.25	0.01	−0.11	−0.21	−0.14	−0.11	−0.30	−0.18	0.00
	698.64	697.13	697.13	697.33	697.39	697.62	697.86	697.92	697.62	697.62	698.32
698.49	698.64	697.70	697.38	697.32	697.50	697.83	697.99	698.03	697.91	697.80	698.32
−12.00	−11.00	−6.60	−6.10	−4.90	−3.90	0.00	3.90	4.90	6.70	7.70	8.80

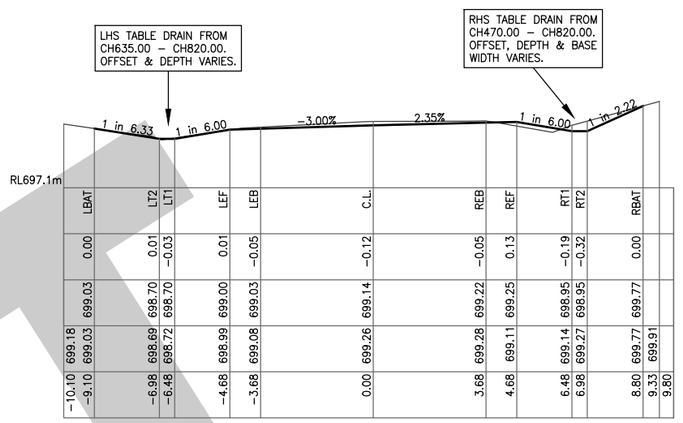
CH 700.00 m



RL696.3m

	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	−0.25	−0.17	−0.14	−0.20	−0.22	−0.09	0.02	−0.03	−0.22	0.00
	698.95	697.82	697.82	698.02	698.08	698.28	698.49	698.54	698.34	698.34	699.72
698.92	698.95	698.07	698.00	698.17	698.28	698.51	698.58	698.53	698.37	698.56	699.72
−9.50	−8.50	−6.56	−6.06	−4.86	−3.86	0.00	3.86	4.86	6.06	6.56	9.50

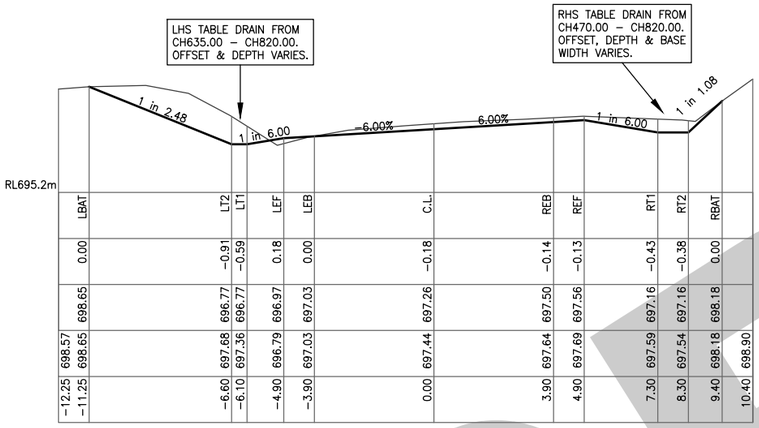
CH 720.00 m



RL697.1m

	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	0.01	−0.03	0.01	−0.05	−0.12	−0.05	0.13	−0.19	−0.32	0.00
	699.03	698.70	698.70	699.00	699.03	699.14	699.25	699.11	698.95	698.95	699.77
699.18	699.03	698.69	698.72	698.99	699.08	699.26	699.28	699.11	699.14	699.27	699.77
−10.10	−9.10	−6.98	−6.48	−4.68	−3.68	0.00	3.68	4.68	6.48	6.98	8.80

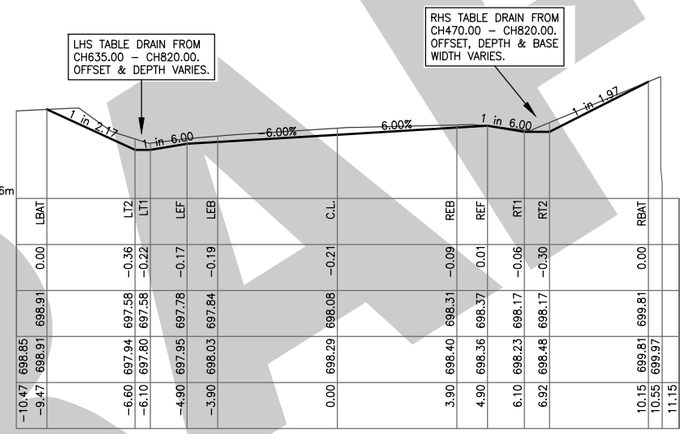
CH 750.00 m



RL695.2m

	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	−0.91	−0.59	0.18	0.00	−0.18	−0.14	−0.13	−0.43	−0.38	0.00
	698.65	696.77	696.77	696.97	697.03	697.26	697.50	697.56	697.16	697.16	698.18
698.57	698.65	697.68	697.36	696.79	697.03	697.44	697.64	697.69	697.59	697.54	698.18
−12.25	−11.25	−6.60	−6.10	−4.90	−3.90	0.00	3.90	4.90	7.30	8.30	9.40

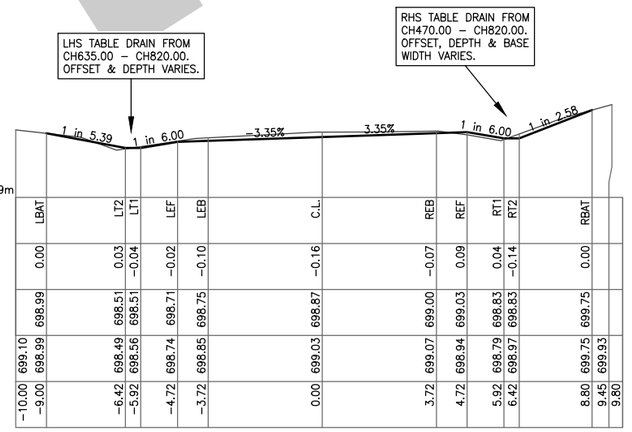
CH 690.00 m



RL696m

	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	−0.36	−0.22	−0.17	−0.19	−0.21	−0.09	0.01	−0.06	−0.30	0.00
	698.91	697.58	697.58	697.78	697.84	698.08	698.31	698.37	698.17	698.17	699.81
698.85	698.91	697.94	697.80	697.95	698.03	698.29	698.40	698.36	698.23	698.48	699.81
−10.47	−9.47	−6.60	−6.10	−4.90	−3.90	0.00	3.90	4.90	6.10	6.92	10.15

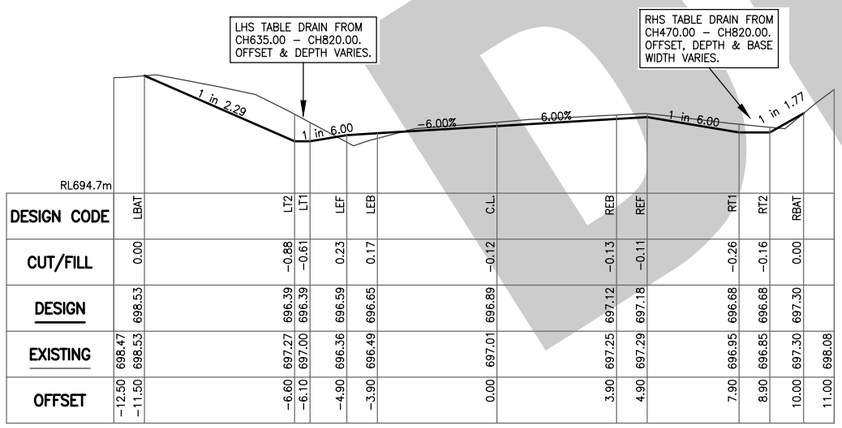
CH 713.51 m



RL696.9m

	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	0.03	−0.04	−0.02	−0.10	−0.16	−0.07	0.09	0.04	−0.14	0.00
	698.99	698.51	698.51	698.71	698.75	698.87	699.00	699.03	698.83	698.83	699.75
699.10	698.99	698.49	698.56	698.74	698.85	699.03	699.07	698.94	698.79	698.97	699.75
−10.00	−9.00	−6.42	−5.92	−4.72	−3.72	0.00	3.72	4.72	5.92	6.42	8.80

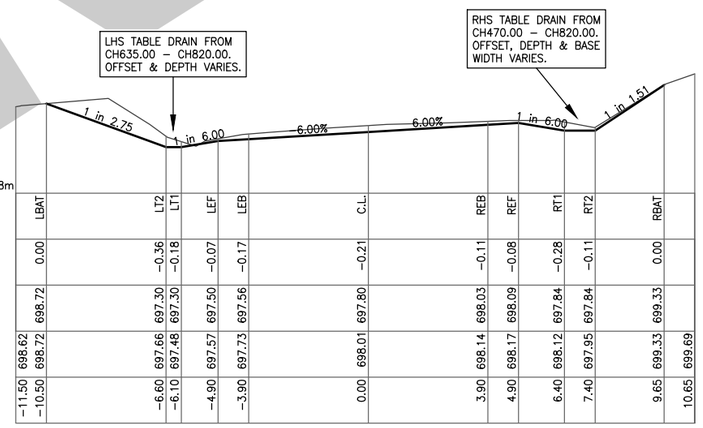
CH 740.00 m



RL694.7m

DESIGN CODE	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
CUT/FILL	0.00	−0.88	−0.61	0.23	0.17	−0.12	−0.13	−0.11	−0.26	−0.16	0.00
DESIGN	698.53	696.39	696.39	696.59	696.65	696.89	697.12	697.18	696.68	696.68	697.30
EXISTING	698.53	697.27	697.00	696.36	696.49	697.01	697.25	697.29	696.95	696.85	697.30
OFFSET	−11.50	−6.60	−6.10	−4.90	−3.90	0.00	3.90	4.90	7.90	8.90	10.00

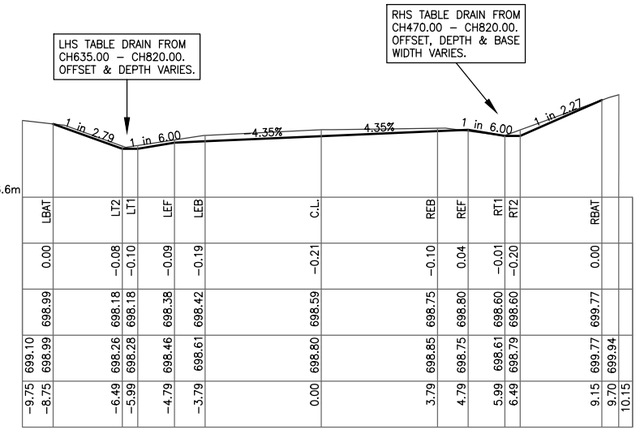
CH 680.00 m



RL695.8m

	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	−0.36	−0.18	−0.07	−0.17	−0.21	−0.11	−0.08	−0.28	−0.11	0.00
	698.72	697.30	697.30	697.50	697.56	697.80	698.03	698.09	697.84	697.84	699.33
698.62	698.72	697.66	697.48	697.57	697.73	698.01	698.14	698.17	698.12	697.95	699.33
−11.50	−10.50	−6.60	−6.10	−4.90	−3.90	0.00	3.90	4.90	6.40	7.40	9.65

CH 705.00 m



RL696.6m

	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT
	0.00	−0.08	−0.10	−0.09	−0.19	−0.21	−0.10	0.04	−0.01	−0.20	0.00
	698.99	698.18	698.18	698.38	698.42	698.59	698.75	698.80	698.60	698.60	699.77
699.10	698.99	698.26	698.28	698.46	698.61	698.80	698.85	698.75	698.61	698.79	699.77
−9.75	−8.75	−6.49	−5.99	−4.79	−3.79	0.00	3.79	4.79	5.99	6.49	9.15

CH 730.00 m

CROSS SECTIONS – TARANA ROAD CH680.00 – CH750.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

		CHECKED	
SURVEYED	HY/MD		
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

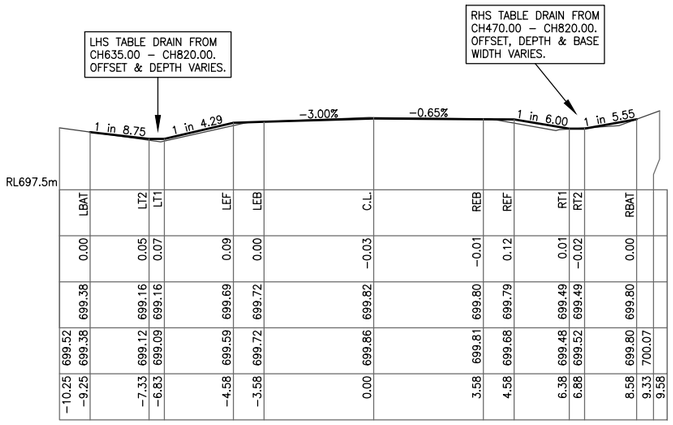
BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: CROSS SECTIONS CH680.00 – CH750.00

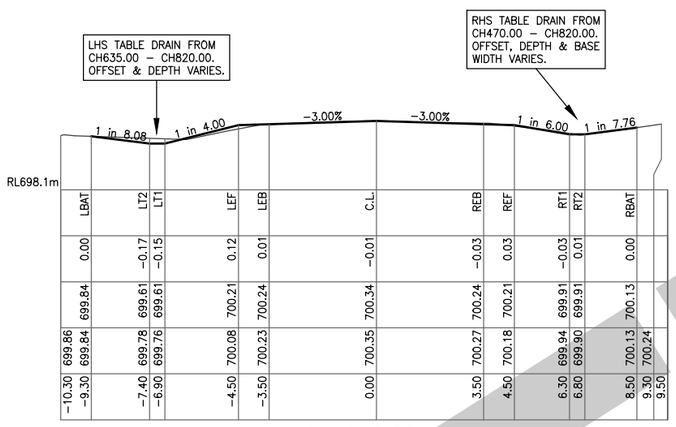
DWG No.	SHEET No.	REV.
EN12061	20	A

DRAFT



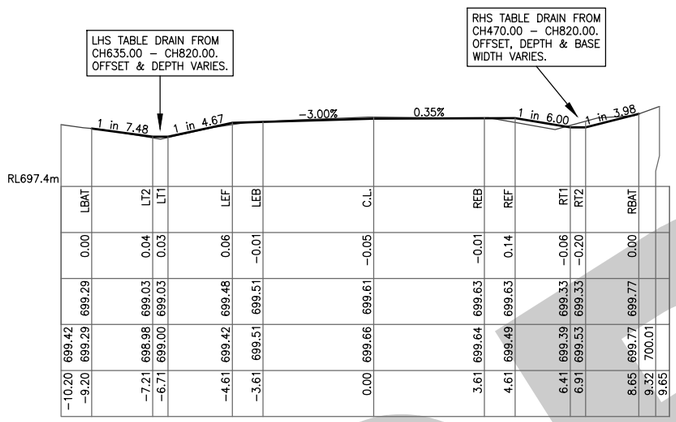
	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	0.05	0.07	0.09	0.00	–0.03	–0.01	0.12	0.01	–0.02	0.00	
	699.38	699.16	699.16	699.69	699.72	699.82	699.80	699.79	699.49	699.49	699.80	
699.52	699.38	699.12	699.09	699.59	699.72	699.86	699.81	699.68	699.48	699.52	699.80	700.07
–10.25	–9.25	–7.33	–6.83	–4.58	–3.58	0.00	3.58	4.58	6.38	6.88	8.58	9.33 9.58

CH 780.00 m



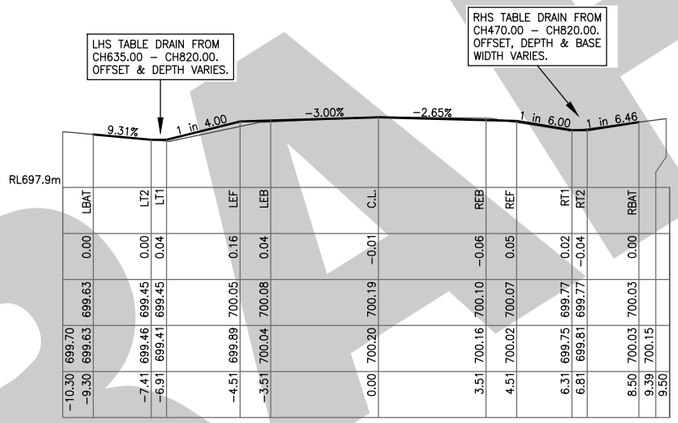
	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	–0.17	–0.15	0.12	0.01	–0.01	–0.03	0.03	–0.03	0.01	0.00	
	699.84	699.61	699.61	700.21	700.24	700.34	700.24	700.21	699.91	699.91	700.13	
699.86	699.84	699.78	699.76	700.08	700.23	700.35	700.27	700.18	699.94	699.90	700.13	700.24
–10.30	–9.30	–7.40	–6.90	–4.50	–3.50	0.00	3.50	4.50	6.30	6.80	8.50	9.30 9.50

CH 810.00 m



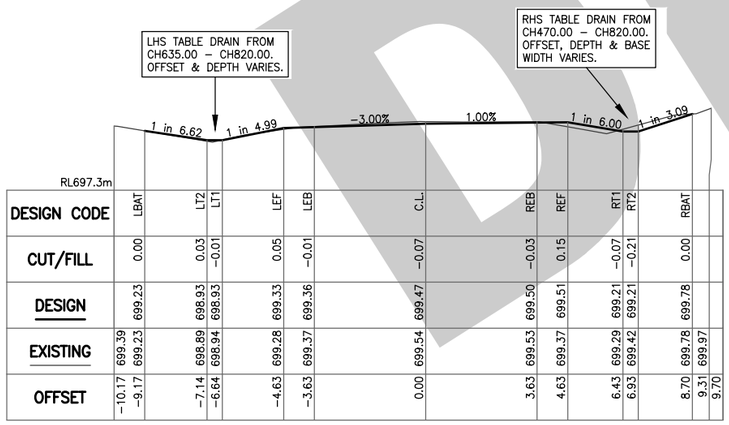
	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	0.04	0.03	0.06	–0.01	–0.05	–0.01	0.14	–0.06	–0.20	0.00	
	699.29	699.03	699.03	699.48	699.51	699.61	699.63	699.63	699.33	699.33	699.77	
699.42	699.29	698.98	699.00	699.42	699.51	699.66	699.64	699.49	699.39	699.53	699.77	700.01
–10.20	–9.20	–7.21	–6.71	–4.61	–3.61	0.00	3.61	4.61	6.41	6.91	8.65	9.32 9.65

CH 770.00 m



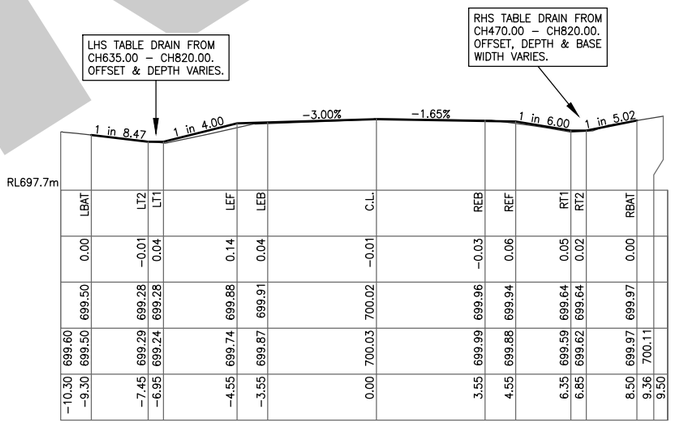
	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	0.00	0.04	0.16	0.04	–0.01	–0.06	0.05	0.02	–0.04	0.00	
	699.63	699.45	699.45	700.05	700.08	700.19	700.10	700.07	699.77	699.77	700.03	
699.70	699.63	699.46	699.41	699.89	700.04	700.20	700.16	700.02	699.75	699.81	700.03	700.15
–10.30	–9.30	–7.41	–6.91	–4.51	–3.51	0.00	3.51	4.51	6.31	6.81	8.50	9.39 9.50

CH 800.00 m



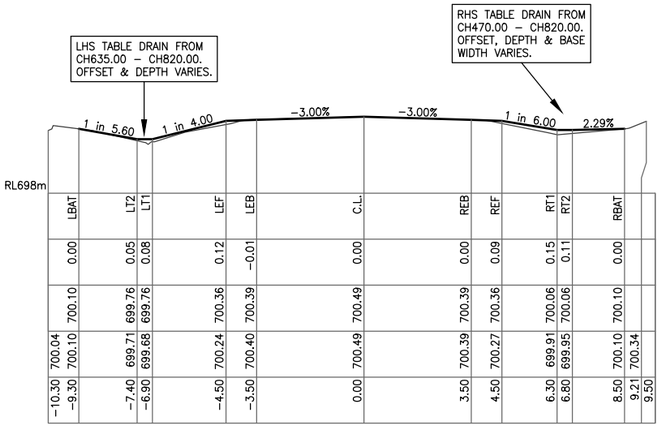
DESIGN CODE	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
CUT/FILL	0.00	0.03	–0.01	0.05	–0.01	–0.07	–0.03	0.15	–0.07	–0.21	0.00	
DESIGN	699.23	698.93	698.93	699.33	699.36	699.47	699.50	699.51	699.21	699.21	699.78	
EXISTING	699.39	699.23	698.89	698.94	699.28	699.37	699.54	699.53	699.37	699.29	699.42	699.78	699.97
OFFSET	–10.17	–9.17	–7.14	–6.64	–4.63	–3.63	0.00	3.63	4.63	6.43	6.93	8.70	9.31 9.70

CH 763.51 m



	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	–0.01	0.04	0.14	0.04	–0.01	–0.03	0.06	0.05	0.02	0.00	
	699.50	699.28	699.28	699.88	699.91	700.02	699.96	699.94	699.64	699.64	699.97	
699.60	699.50	699.29	699.24	699.74	699.87	700.03	699.99	699.88	699.59	699.62	699.97	700.11
–10.30	–9.30	–7.45	–6.95	–4.55	–3.55	0.00	3.55	4.55	6.35	6.85	8.50	9.36 9.50

CH 790.00 m



	LBAT	LT2	LT1	LEF	LEB	C.L.	REB	REF	RT1	RT2	RBAT	
	0.00	0.05	0.08	0.12	–0.01	0.00	0.00	0.09	0.15	0.11	0.00	
	700.10	699.76	699.76	700.36	700.39	700.49	700.39	700.36	700.06	700.06	700.10	
700.04	700.10	699.71	699.68	700.27	700.40	700.49	700.39	700.27	699.91	699.95	700.10	700.34
–10.30	–9.30	–7.40	–6.90	–4.50	–3.50	0.00	3.50	4.50	6.30	6.80	8.50	9.21 9.50

CH 820.00 m

CROSS SECTIONS – TARANA ROAD CH763.51 – CH820.00

SCALES: HORIZONTAL – 1:100 VERTICAL – 1:100

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

DIRECTOR ENGINEERING SERVICES

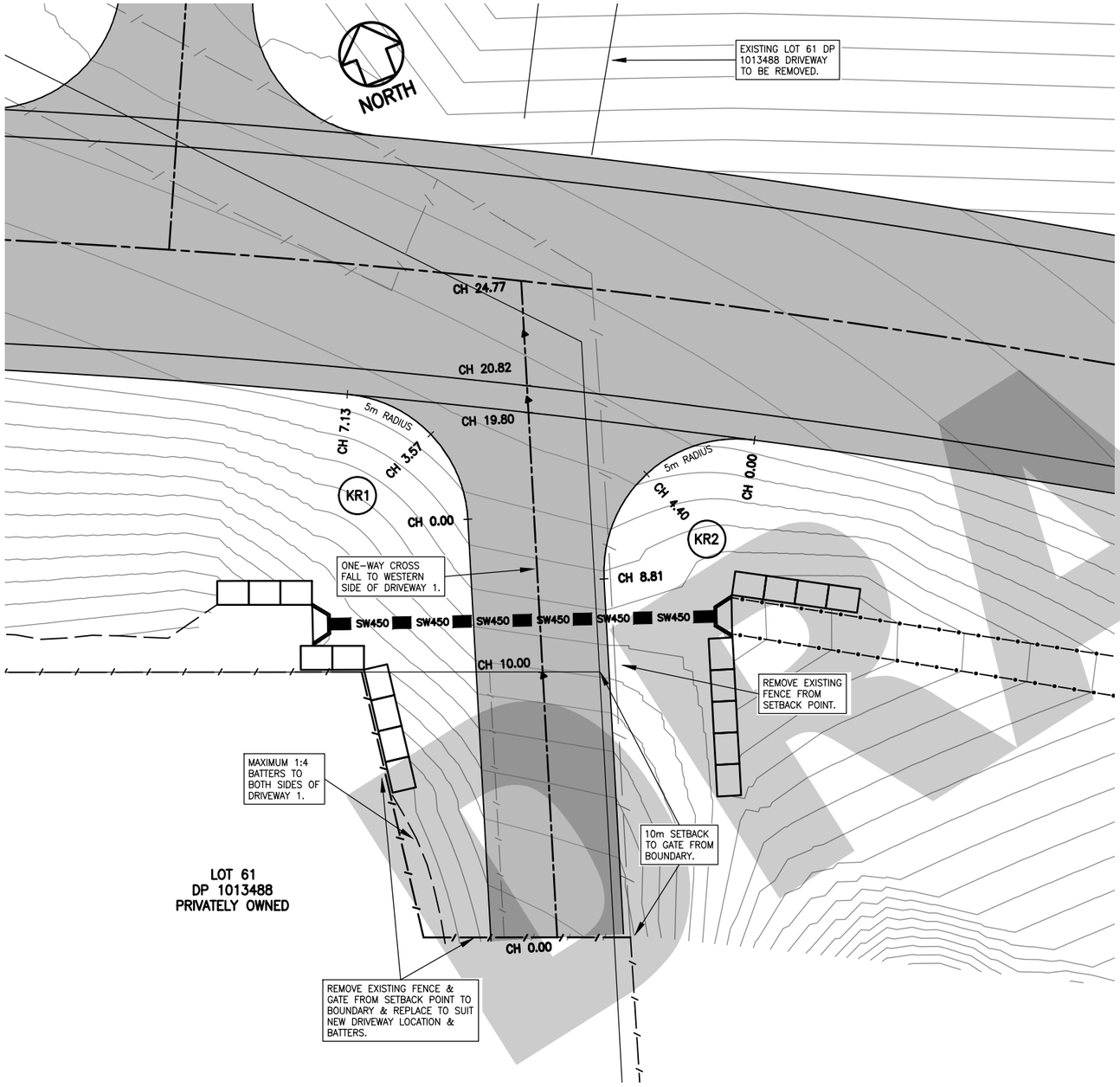
BATHURST REGIONAL COUNCIL

PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

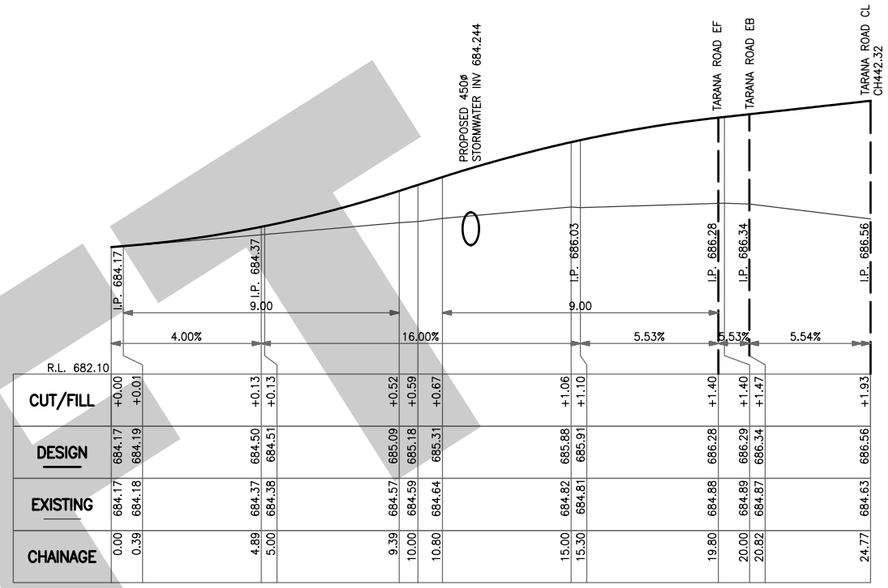
DESCRIPTION
CROSS SECTIONS CH763.51 – CH820.00

DWG No.	SHEET No.	REV.
EN12061	21	A

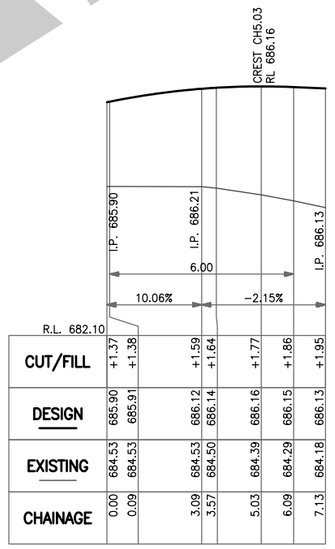
DRAFT



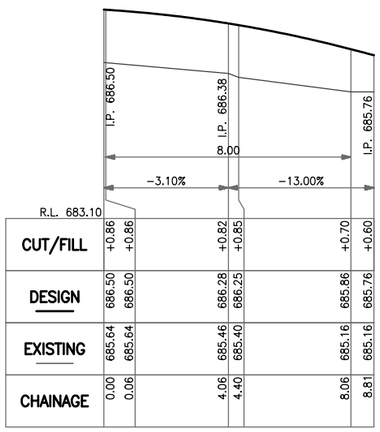
LOT 61 DP 1013488
DRIVEWAY 1 RECONSTRUCTION PLAN
SCALE 1:100



LONGSECTION – DRIVEWAY 1 CH0.000 – CH24.768
SCALES: HORIZONTAL – 1:100 VERTICAL – 1:50



LONGSECTION – KR1 CH0.000 – CH7.130
SCALES: HORIZONTAL – 1:100 VERTICAL – 1:50



LONGSECTION – KR2 CH0.000 – CH8.809
SCALES: HORIZONTAL – 1:100 VERTICAL – 1:50

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

DIRECTOR ENGINEERING SERVICES

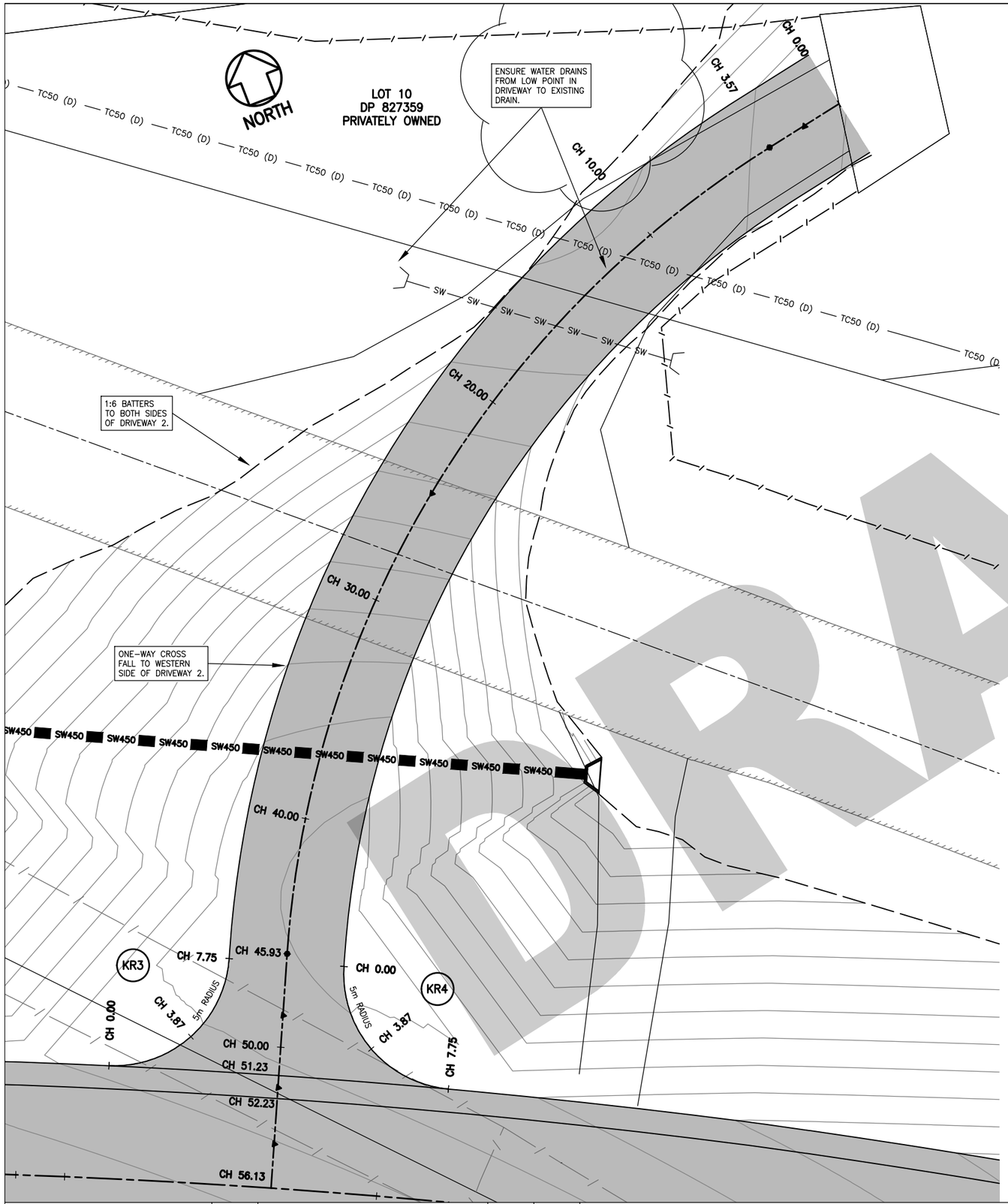
BATHURST REGIONAL COUNCIL

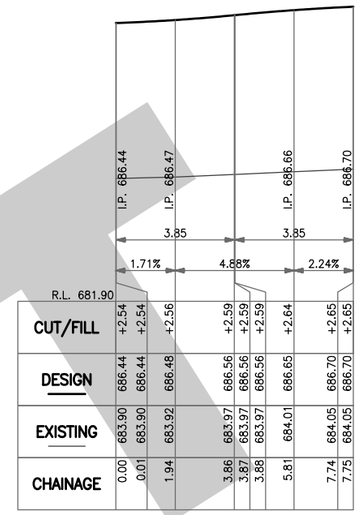
PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION
LOT 61 DP 1013488 DRIVEWAY 1 PLAN & LONGSECTIONS

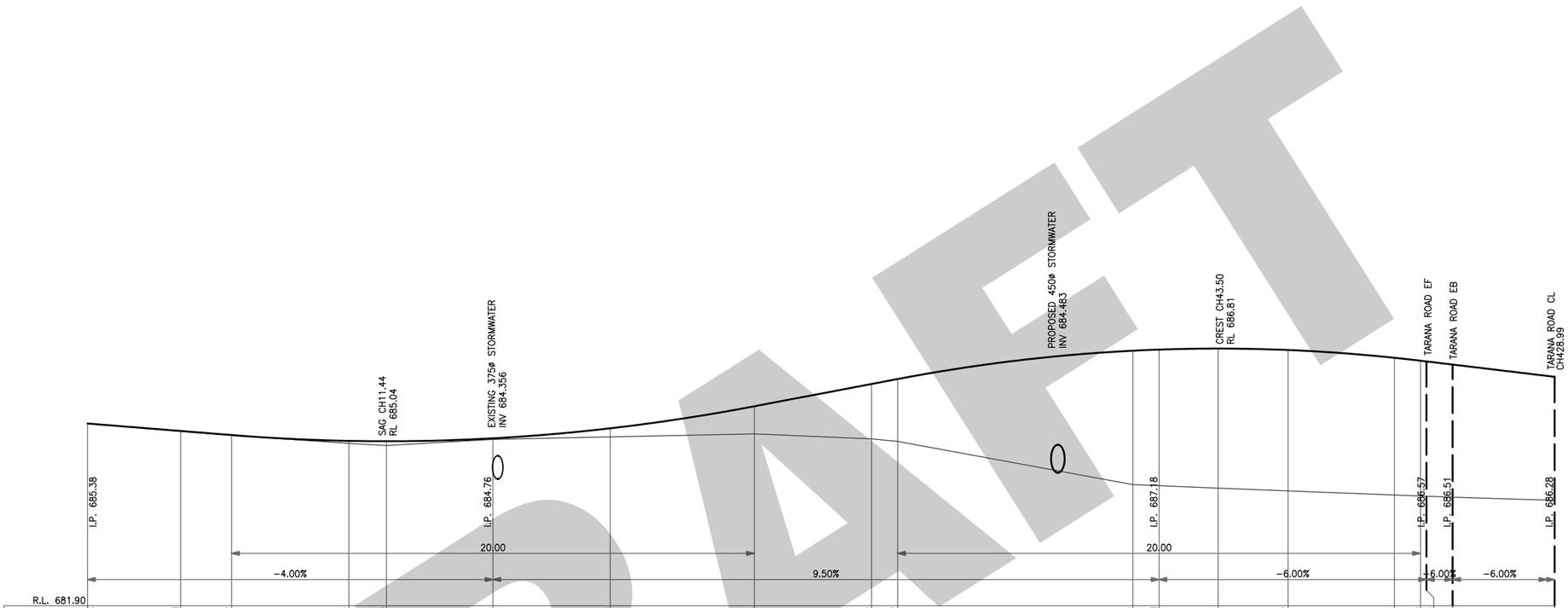
DWG No.	SHEET No.	REV.
EN12061	22	A

DRAFT

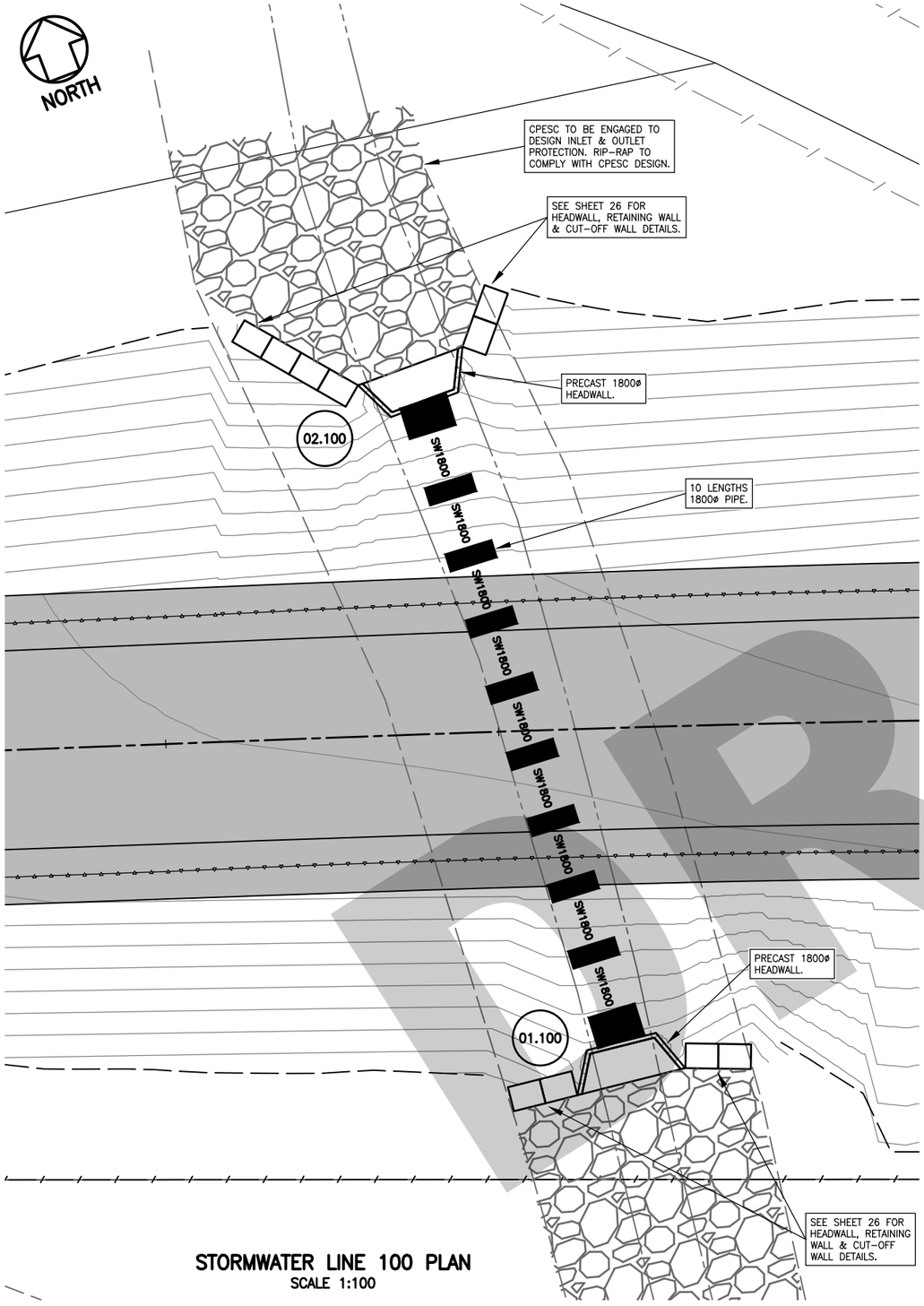

NORTH
LOT 10
DP 827359
PRIVATELY OWNED
ENSURE WATER DRAINS FROM LOW POINT IN DRIVEWAY TO EXISTING DRAIN.
1:6 BATTERS TO BOTH SIDES OF DRIVEWAY 2.
ONE-WAY CROSS FALL TO WESTERN SIDE OF DRIVEWAY 2.
CH 0.00
CH 3.57
CH 10.00
CH 20.00
CH 30.00
CH 40.00
CH 45.93
CH 50.00
CH 51.23
CH 52.23
CH 56.13
CH 7.75
CH 0.00
CH 3.87
5m RADIUS
KR3
KR4
TC50 (D)
SW
SW450


I.P. 686.44
I.P. 686.47
I.P. 686.66
I.P. 686.70
3.85
3.85
1.71%
4.88%
2.24%
R.L. 681.90

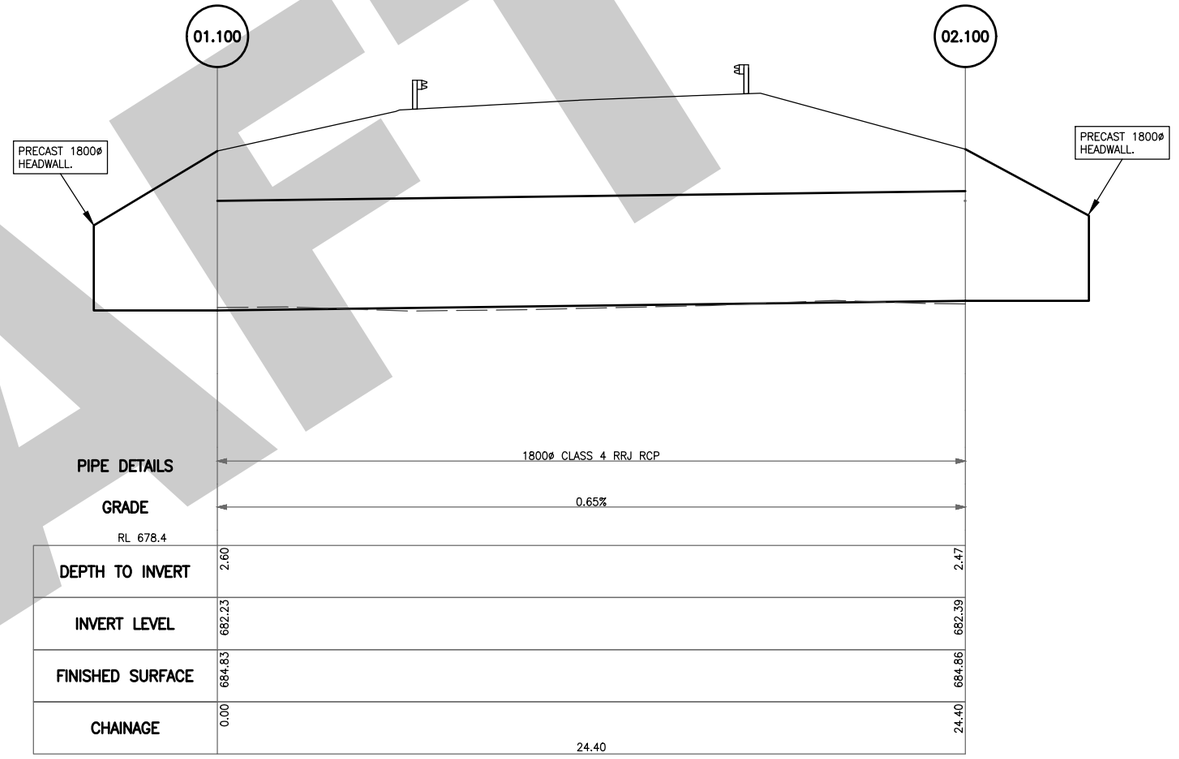
| | | |


SAG CH11.44
RL 685.04
EXISTING 375ø STORMWATER
INV 684.356
PROPOSED 450ø STORMWATER
INV 684.483
CREST CH43.50
RL 686.81
TARANA ROAD EF
TARANA ROAD EB
TARANA ROAD CL
CH428.99
I.P. 685.38
I.P. 684.76
I.P. 687.18
I.P. 686.57
I.P. 686.51
I.P. 686.28
20.00
20.00
−4.00%
9.50%
−6.00%
−6.00%
−6.00%
R.L. 681.90

| | | |



STORMWATER LINE 100 PLAN
SCALE 1:100



PIPE DETAILS	1800ø CLASS 4 RRJ RCP	
GRADE	0.65%	
RL 678.4		
DEPTH TO INVERT	2.60	2.47
INVERT LEVEL	682.23	682.39
FINISHED SURFACE	684.83	684.86
CHAINAGE	0.00	24.40
	24.40	

LONGSECTION STORMWATER LINE 100
SCALES: HORIZONTAL 1:100 VERTICAL 1:50

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0	0.1	0.2	0.3	0.4	0.5	1:200	0	2	4	6	8	10	1:750	0	7.5	15	22.5	30	37.5
1:20	0	0.2	0.4	0.6	0.8	1.0	1:250	0	2.5	5	7.5	10	12.5	1:1000	0	10	20	30	40	50
1:50	0	0.5	1.0	1.5	2.0	2.5	1:400	0	4	8	12	16	20	1:2000	0	20	40	60	80	100
1:100	0	1	2	3	4	5	1:500	0	5	10	15	20	25	1:5000	0	50	100	150	200	250

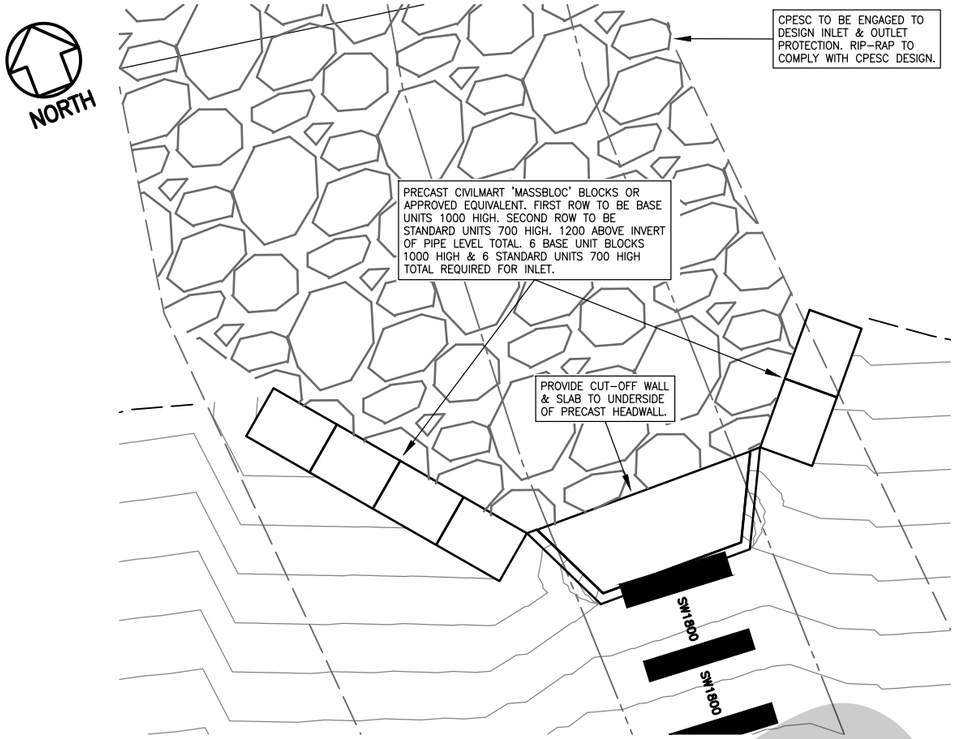
SURVEYED	HY/MD	CHECKED	
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

BATHURST REGIONAL COUNCIL

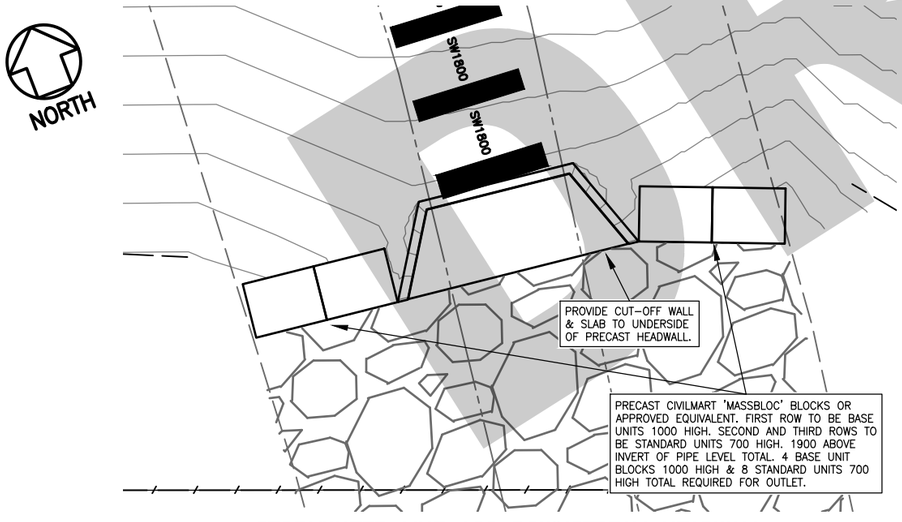
PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: STORMWATER LINE 100 PLAN PLAN & LONGSECTION

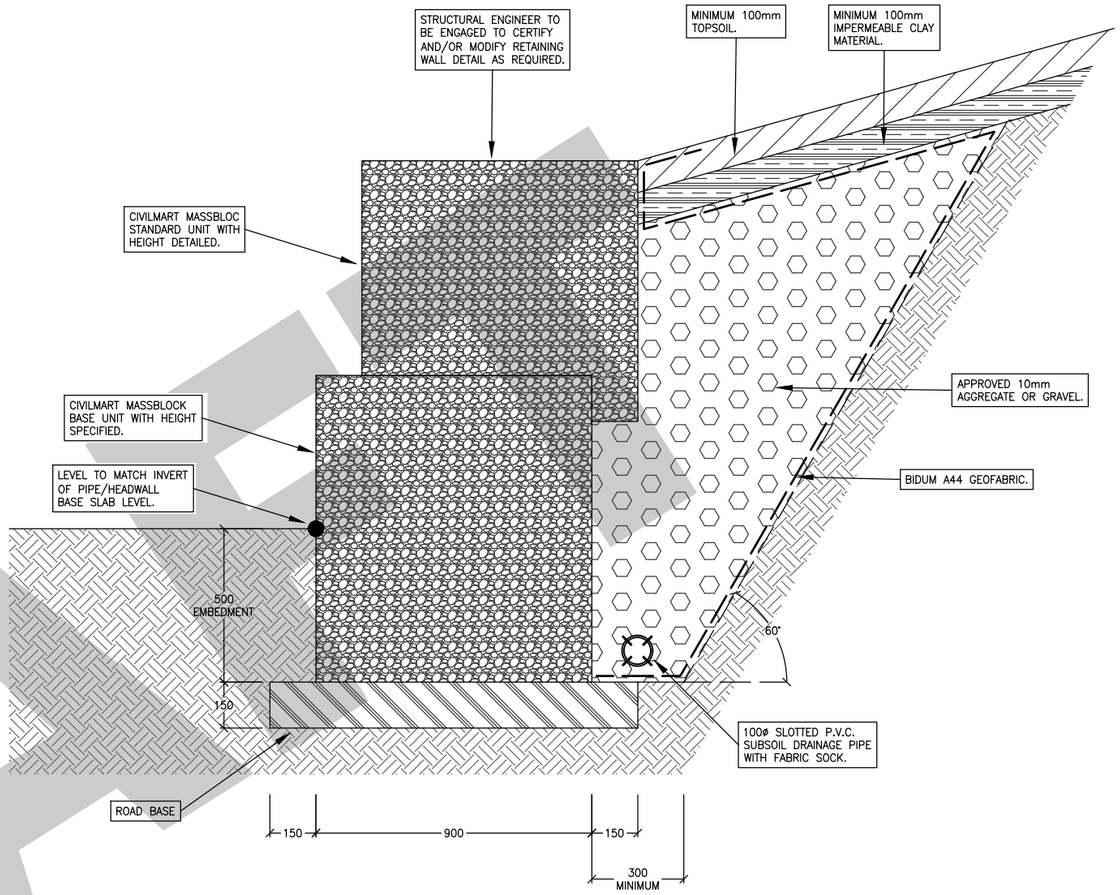
DWG No.	SHEET No.	REV.
EN12061	25	A



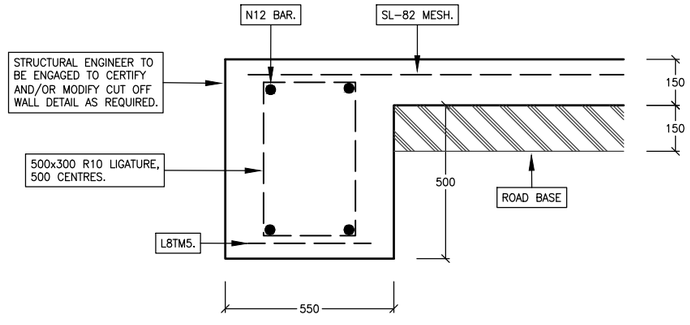
STORMWATER LINE 100 UPSTREAM HEADWALL & RETAINING WALL CONSTRUCTION DETAILS PLAN
SCALE 1:100



STORMWATER LINE 100 DOWNSTREAM HEADWALL & RETAINING WALL CONSTRUCTION DETAILS PLAN
SCALE 1:100



CIVILMART MASSBLOC (OR APPROVED EQUIVALENT) RETAINING WALL TYPICAL DETAIL
NOT TO SCALE



CUT OFF WALL & SLAB TYPICAL DETAIL
SCALE 1:100

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

DIRECTOR ENGINEERING SERVICES

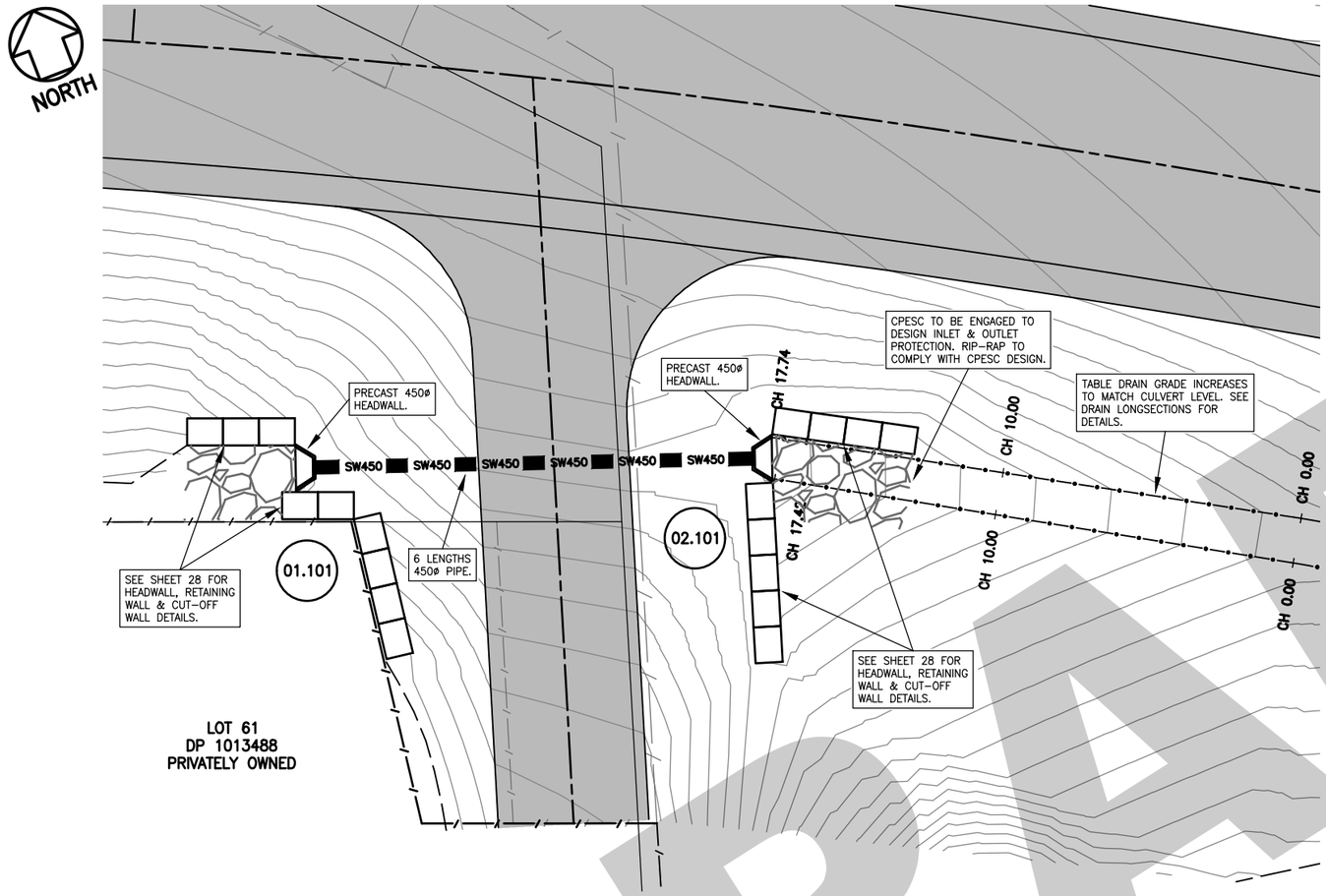
BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

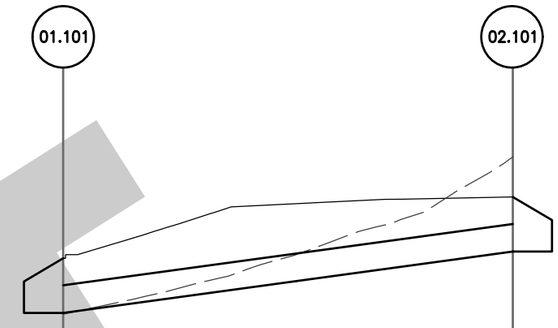
DESCRIPTION: STORMWATER LINE 100 HEADWALL CONSTRUCTION DETAILS

DWG No.	SHEET No.	REV.
EN12061	26	A

DRAFT

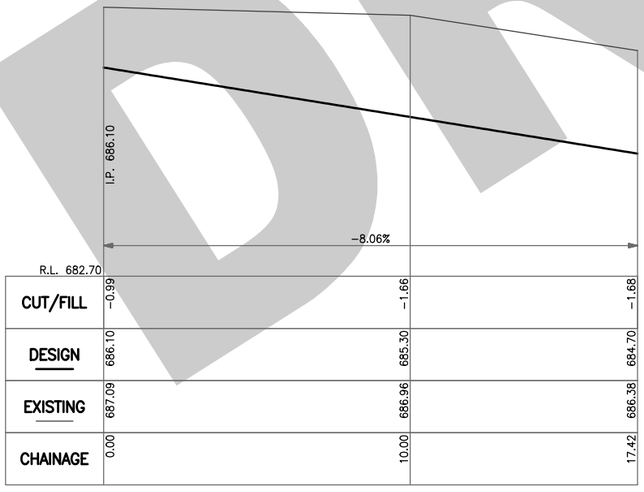


STORMWATER LINE 101 PLAN
SCALE 1:100



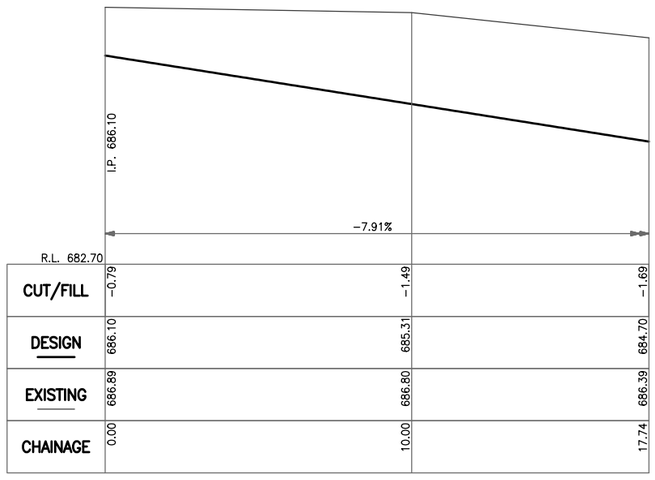
PIPE DETAILS		450ø CLASS 4 RRJ RCP	
GRADE		6.82%	
RL 679.9			
DEPTH TO INVERT	0.89		0.00
INVERT LEVEL	683.70		684.70
FINISHED SURFACE	684.59		684.70
CHAINAGE	0.00	14.64	14.67

LONGSECTION STORMWATER LINE 101
SCALES: HORIZONTAL 1:100 VERTICAL 1:50



R.L. 682.70			
CUT/FILL	-0.99	-1.66	-1.68
DESIGN	686.10	685.30	684.70
EXISTING	687.09	686.96	686.38
CHAINAGE	0.00	10.00	17.42

LONGSECTION – SW LINE 101 UPSTREAM HEADWALL LHS TABLE DRAIN CH0.000 – CH17.416
SCALES: HORIZONTAL – 1:100 VERTICAL – 1:50



R.L. 682.70			
CUT/FILL	-0.79	-1.49	-1.69
DESIGN	686.10	685.31	684.70
EXISTING	686.89	686.80	686.39
CHAINAGE	0.00	10.00	17.74

LONGSECTION – SW LINE 101 UPSTREAM HEADWALL RHS TABLE DRAIN CH0.000 – CH17.740
SCALES: HORIZONTAL – 1:100 VERTICAL – 1:50

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

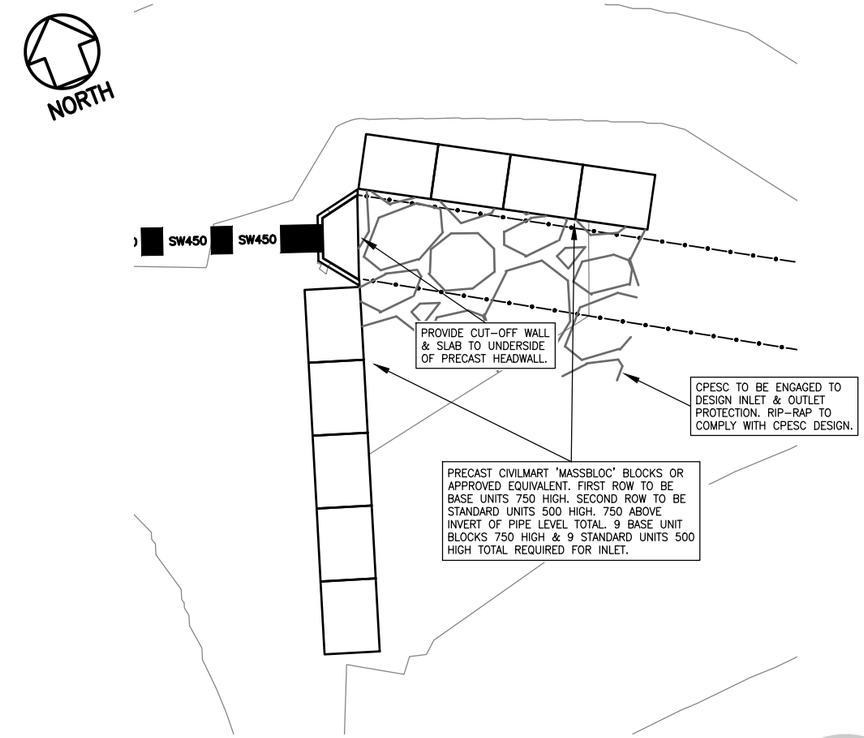
SURVEYED	HY/MD	CHECKED	
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

BATHURST REGIONAL COUNCIL

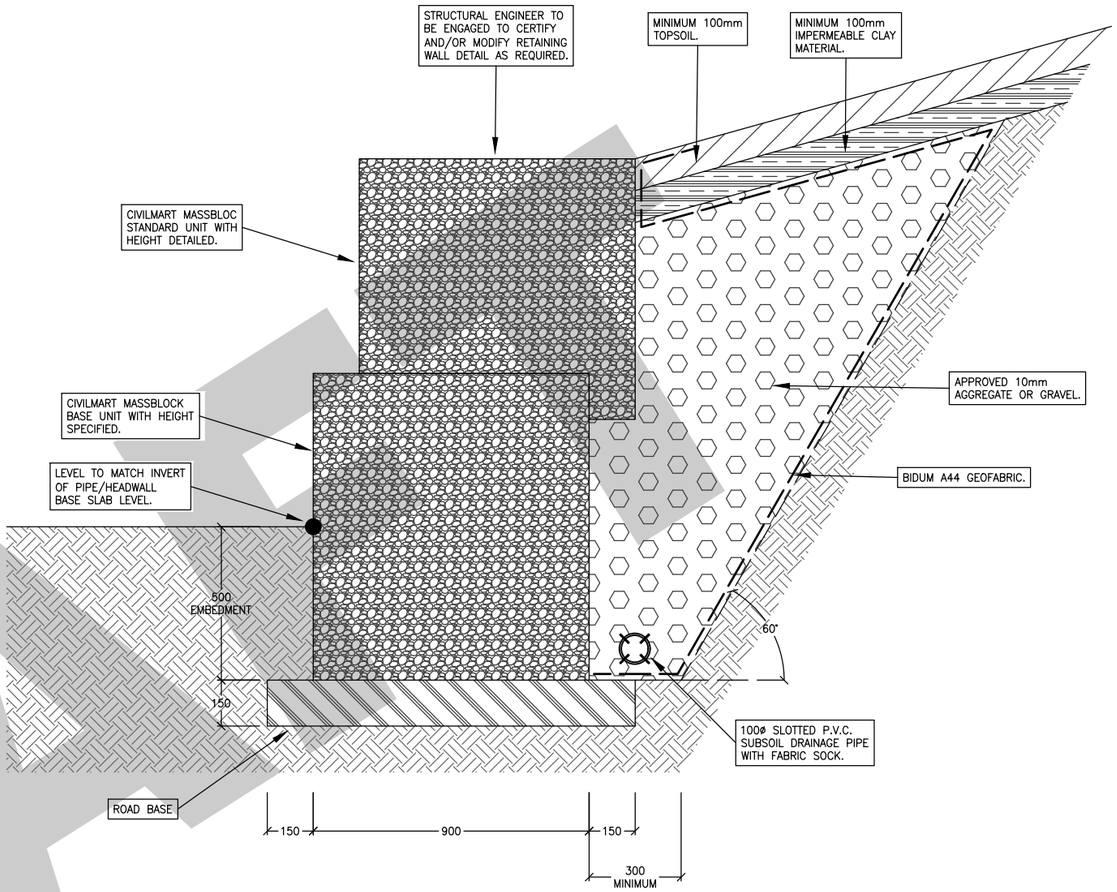
PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: STORMWATER LINE 101 PLAN & LONGSECTION

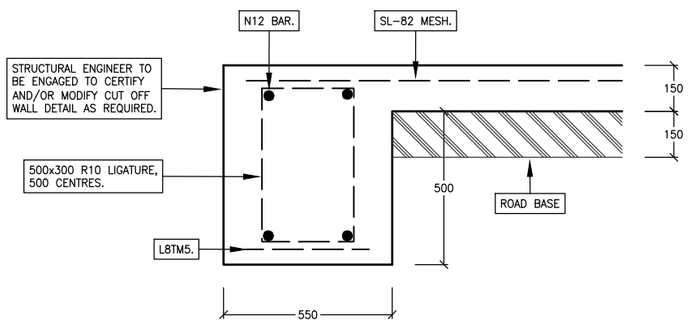
DWG No.	SHEET No.	REV.
EN12061	27	A



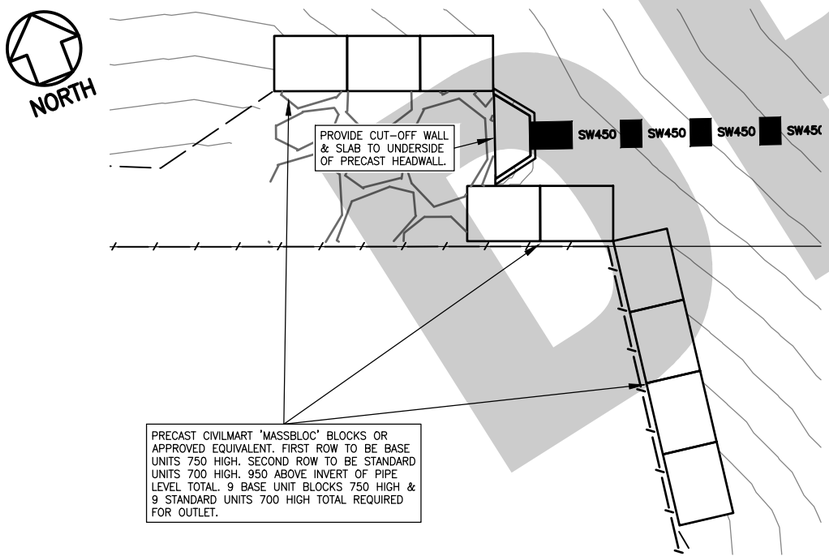
STORMWATER LINE 101 UPSTREAM HEADWALL & RETAINING WALL CONSTRUCTION DETAILS PLAN
SCALE 1:100



CIVILMART MASSBLOC (OR APPROVED EQUIVALENT) RETAINING WALL TYPICAL DETAIL
NOT TO SCALE



CUT OFF WALL & SLAB TYPICAL DETAIL
SCALE 1:100



STORMWATER LINE 101 DOWNSTREAM HEADWALL & RETAINING WALL CONSTRUCTION DETAILS PLAN
SCALE 1:100

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

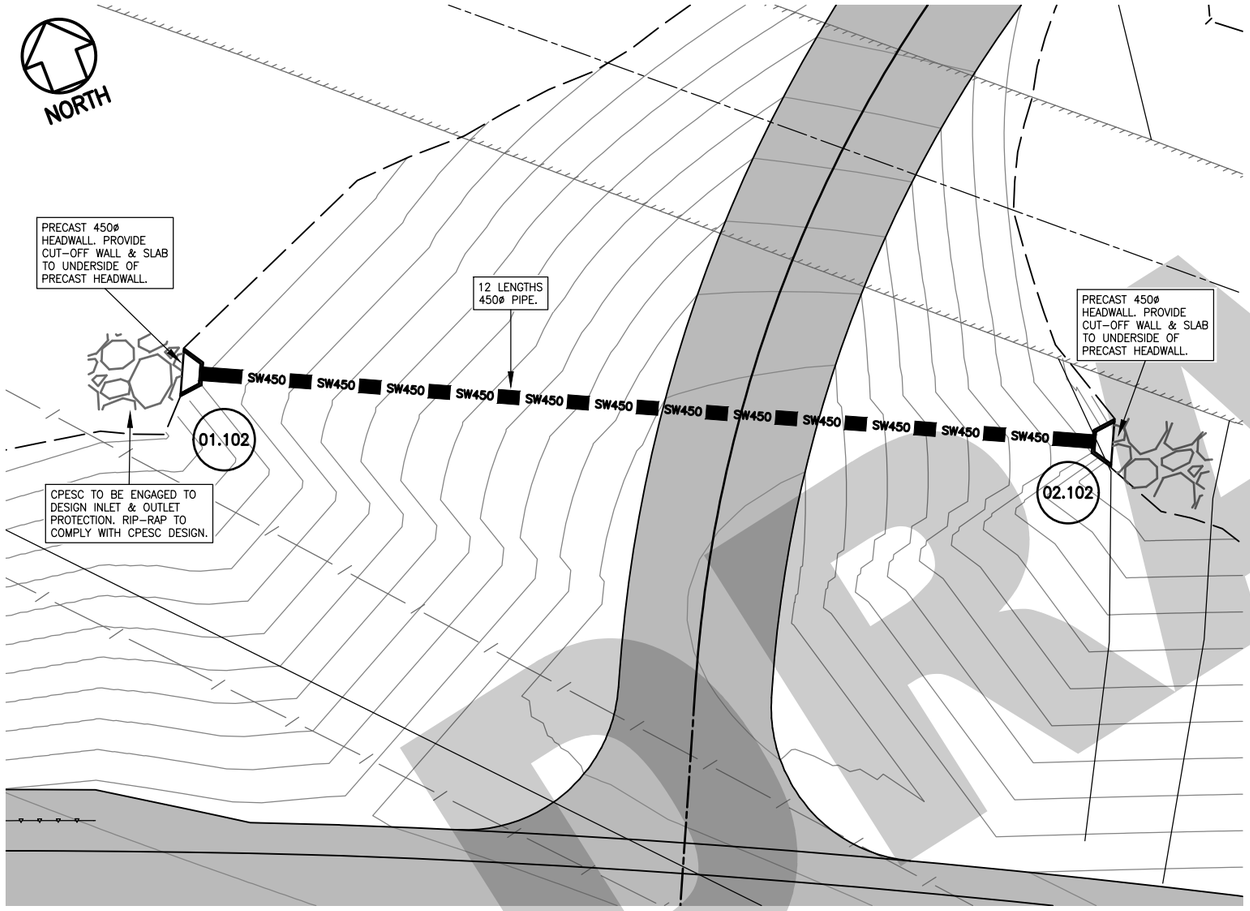
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

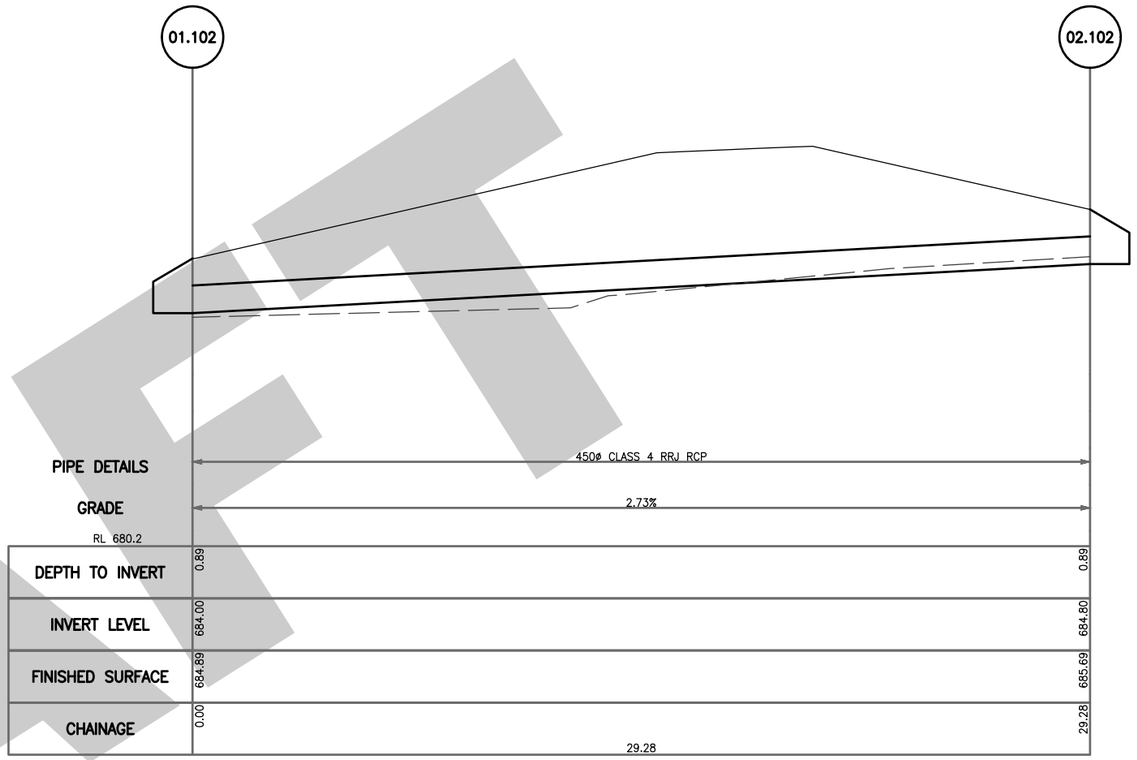
PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION
STORMWATER LINE 101 HEADWALL CONSTRUCTION DETAILS

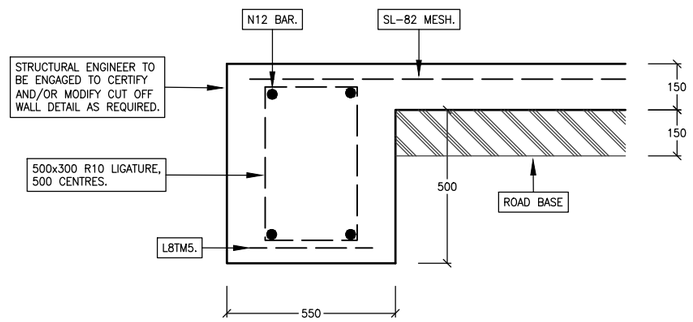
DWG No.	SHEET No.	REV.
EN12061	28	A



STORMWATER LINE 102 PLAN
SCALE 1:100



LONGSECTION STORMWATER LINE 102
SCALES: HORIZONTAL 1:100 VERTICAL 1:50



CUT OFF WALL & SLAB TYPICAL DETAIL
SCALE 1:100

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0	0.1	0.2	0.3	0.4	0.5					
1:20	0	0.2	0.4	0.6	0.8	1.0					
1:50	0	0.5	1.0	1.5	2.0	2.5					
1:100	0	1	2	3	4	5					
1:200	0	2	4	6	8	10					
1:250	0	2.5	5	7.5	10	12.5					
1:400	0	4	8	12	16	20					
1:500	0	5	10	15	20	25					
1:750	0	7.5	15	22.5	30	37.5					
1:1000	0	10	20	30	40	50					
1:2000	0	20	40	60	80	100					
1:5000	0	50	100	150	200	250					

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

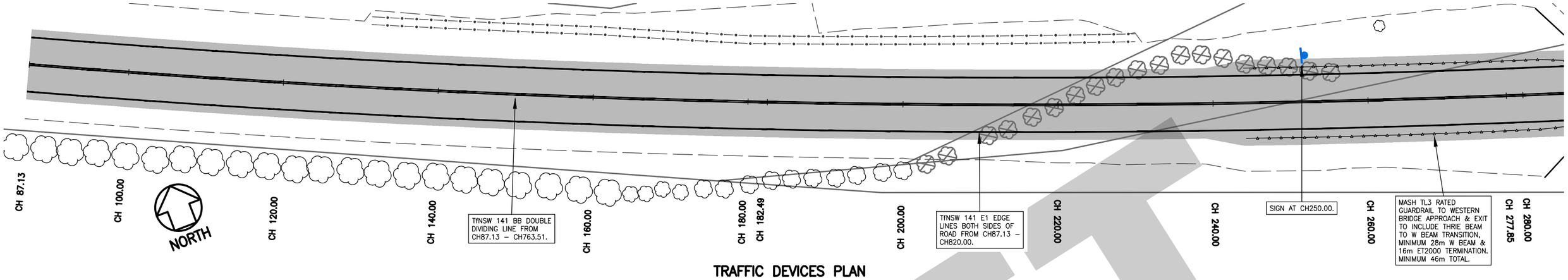
DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: STORMWATER LINE 102 PLAN, LONGSECTION & HEADWALL CONSTRUCTION DETAILS

DWG No.	SHEET No.	REV.
EN12061	29	A



TRAFFIC DEVICES PLAN
SCALE 1:250

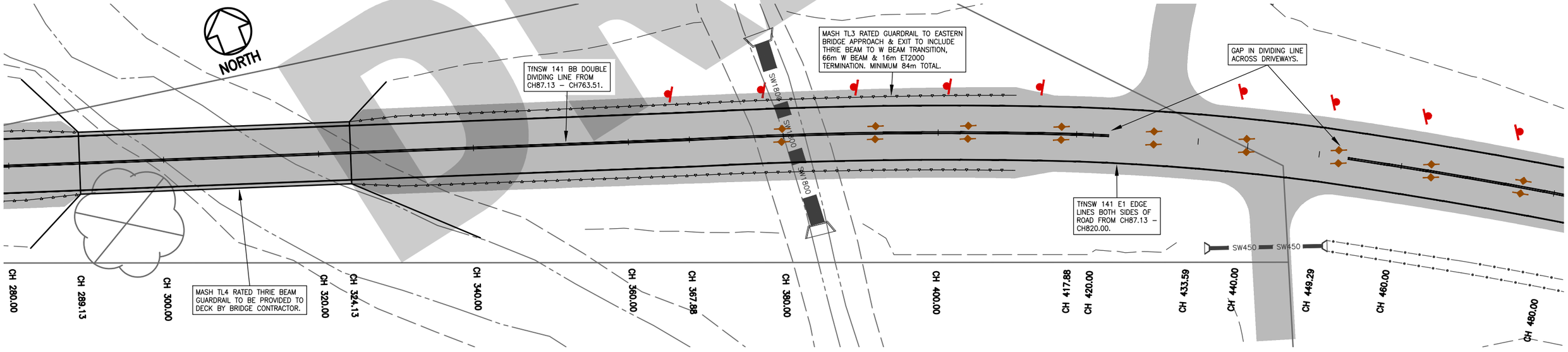
NOTES:

GENERAL:

1. ADVISORY SPEED FOR CURVES 2 AND 3 TO BE DETERMINED USING METHODS DETAILED IN AS1742.2 & APPROVED BY TfNSW.
2. ALL PAVEMENT MARKING TO BE UNDERTAKEN IN ACCORDANCE WITH TfNSW QUALITY ASSURANCE SPECIFICATION 141 – PAVEMENT MARKING.
3. BITUMEN SPRAY SEALED SURFACES LINES TO BE WHITE REFLECTIVE PAINT MATERIAL.
4. IF ADVISORY SPEED TO CURVES 2 & 3 (REVERSE CURVES) 85KM/H OR LESS, REVERSE CURVE & ADVISORY SPEED SIGNS TO BE PROVIDED AS SPECIFIED.
5. IF ADVISORY SPEED TO CURVES 2 & 3 (REVERSE CURVES) 80KM/H OR LESS, RAISED RETROREFLECTIVE PAVEMENT MARKERS TO BE PROVIDED EACH SIDE OF BARRIER LINES AS SPECIFIED, IN ACCORDANCE WITH TfNSW QUALITY ASSURANCE SPECIFICATION 142.
6. IF ADVISORY SPEED TO CURVES 2 & 3 (REVERSE CURVES) 80KM/H OR LESS, CURVE ALIGNMENT MARKER SIGNS TO BE PROVIDED AS SPECIFIED. SETOUT TO BE PROVIDED IF REQUIRED.
7. GUIDE POSTS TO BE PROVIDED AT SPACINGS DETAILED IN TABLE ON SHEET 3.

TRAFFIC DEVICES LEGEND

SIGN	PLAN SYMBOL	CODE	SIZE	QUANTITY	DESCRIPTION/COMMENTS
CONCEALED DRIVEWAY		W-55-1	B	1	CONCEALED DRIVEWAY
XX km/h		W1-4(R) & W8-2	B	2	REVERSE CURVE RIGHT & ADVISORY SPEED. PROVISIONAL – ONLY REQUIRED IF ADVISORY SPEED 85KM/H OR LESS
		D4-6(R)	B	14 – PROVISIONAL ONLY	CURVE ALIGNMENT MARKERS AT 12m SPACINGS. PROVISIONAL – ONLY REQUIRED IF ADVISORY SPEED 80KM/H OR LESS
		D4-6(L)	B	16 – PROVISIONAL ONLY	CURVE ALIGNMENT MARKERS AT 12m SPACINGS. PROVISIONAL – ONLY REQUIRED IF ADVISORY SPEED 80KM/H OR LESS
N/A		N/A	N/A	68 – PROVISIONAL ONLY	RAISED RETROREFLECTIVE PAVEMENT MARKERS AT 12m SPACINGS, YELLOW COLOUR, BIDIRECTIONAL. PROVISIONAL – ONLY REQUIRED IF ADVISORY SPEED 80KM/H OR LESS



TRAFFIC DEVICES PLAN
SCALE 1:250

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

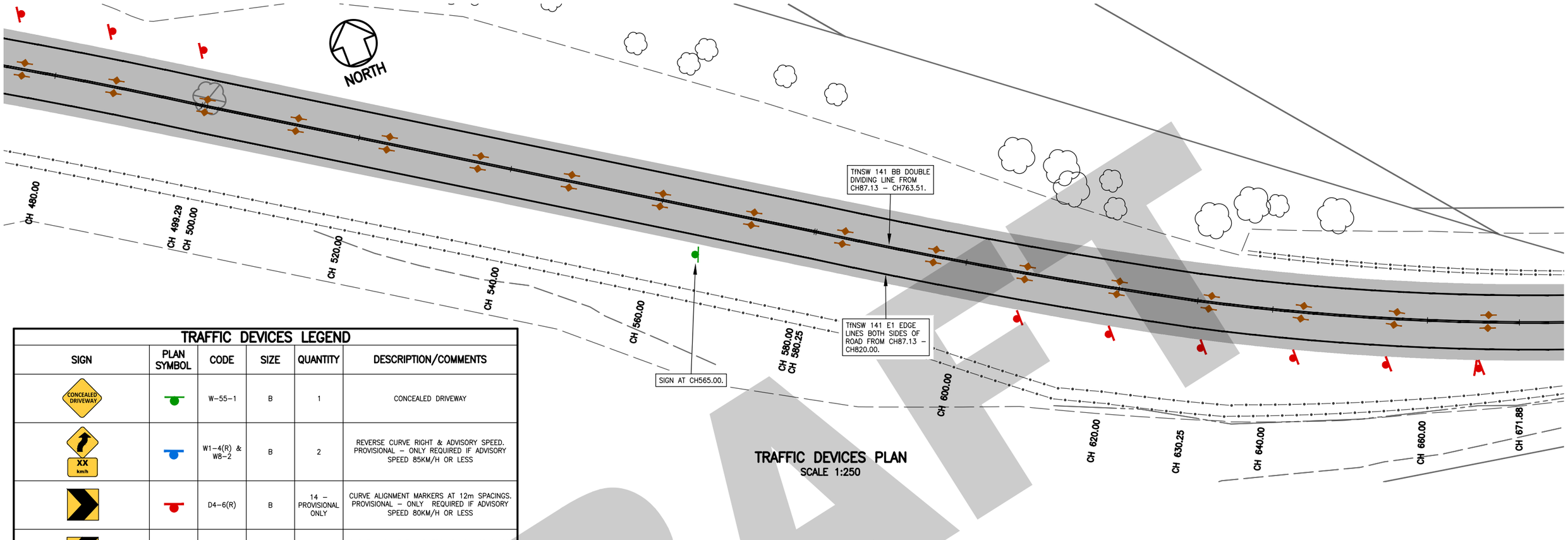
SURVEYED	HY/MD	CHECKED	
DRAWN	MC		
DESIGN	MC	TECHNICAL SERVICES MANAGER	
DATE	01/09/23		
DATUM	MGA55 GDA20, AHD	DIRECTOR ENGINEERING SERVICES	

BATHURST REGIONAL COUNCIL

PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD
RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION
TRAFFIC DEVICES PLAN
CH87.13 – CH480.00

DWG No.	SHEET No.	REV.
EN12061	30	A



TRAFFIC DEVICES PLAN
SCALE 1:250

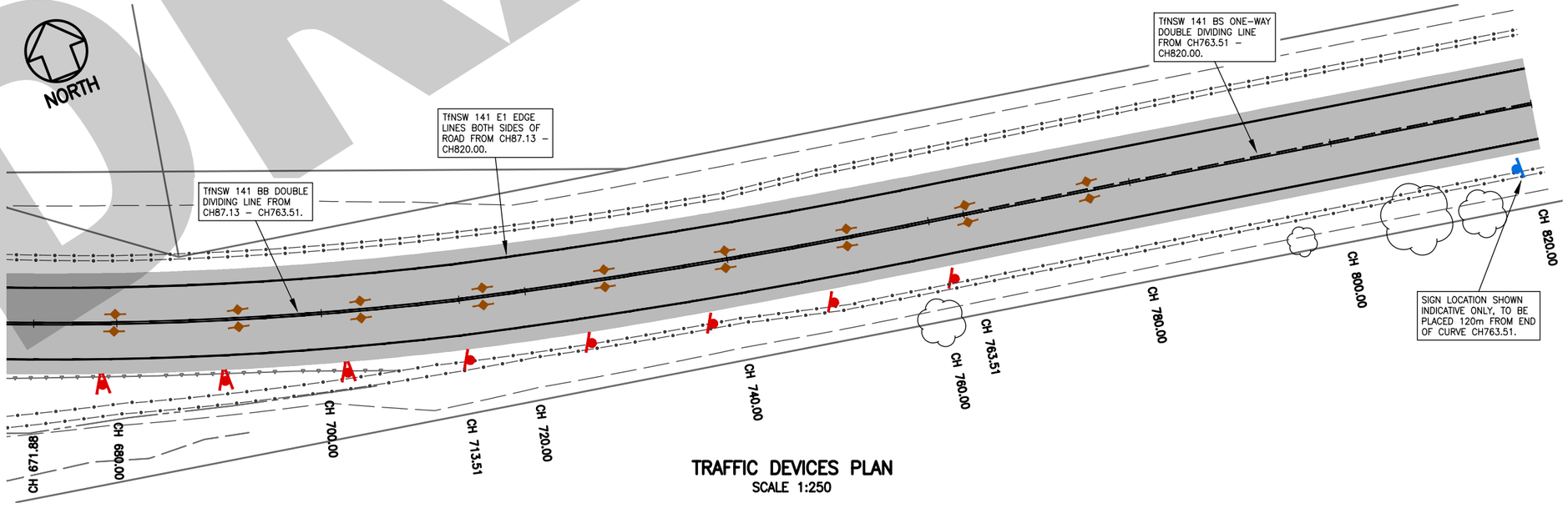
TRAFFIC DEVICES LEGEND

SIGN	PLAN SYMBOL	CODE	SIZE	QUANTITY	DESCRIPTION/COMMENTS
CONCEALED DRIVEWAY		W–55–1	B	1	CONCEALED DRIVEWAY
XX km/h		W1–4(R) & W8–2	B	2	REVERSE CURVE RIGHT & ADVISORY SPEED. PROVISIONAL – ONLY REQUIRED IF ADVISORY SPEED 85KM/H OR LESS
		D4–6(R)	B	14 – PROVISIONAL ONLY	CURVE ALIGNMENT MARKERS AT 12m SPACINGS. PROVISIONAL – ONLY REQUIRED IF ADVISORY SPEED 80KM/H OR LESS
		D4–6(L)	B	16 – PROVISIONAL ONLY	CURVE ALIGNMENT MARKERS AT 12m SPACINGS. PROVISIONAL – ONLY REQUIRED IF ADVISORY SPEED 80KM/H OR LESS
N/A		N/A	N/A	68 – PROVISIONAL ONLY	RAISED RETROREFLECTIVE PAVEMENT MARKERS AT 12m SPACINGS, YELLOW COLOUR, BIDIRECTIONAL. PROVISIONAL – ONLY REQUIRED IF ADVISORY SPEED 80KM/H OR LESS

NOTES:

GENERAL:

1. ADVISORY SPEED FOR CURVES 2 AND 3 TO BE DETERMINED USING METHODS DETAILED IN AS1742.2 & APPROVED BY TfNSW.
2. ALL PAVEMENT MARKING TO BE UNDERTAKEN IN ACCORDANCE WITH TfNSW QUALITY ASSURANCE SPECIFICATION 141 – PAVEMENT MARKING.
3. BITUMEN SPRAY SEALED SURFACES LINES TO BE WHITE REFLECTIVE PAINT MATERIAL.
4. IF ADVISORY SPEED TO CURVES 2 & 3 (REVERSE CURVES) 85KM/H OR LESS, REVERSE CURVE & ADVISORY SPEED SIGNS TO BE PROVIDED AS SPECIFIED.
5. IF ADVISORY SPEED TO CURVES 2 & 3 (REVERSE CURVES) 80KM/H OR LESS, RAISED RETROREFLECTIVE PAVEMENT MARKERS TO BE PROVIDED EACH SIDE OF BARRIER LINES AS SPECIFIED, IN ACCORDANCE WITH TfNSW QUALITY ASSURANCE SPECIFICATION 142.
6. IF ADVISORY SPEED TO CURVES 2 & 3 (REVERSE CURVES) 80KM/H OR LESS, CURVE ALIGNMENT MARKER SIGNS TO BE PROVIDED AS SPECIFIED. SETOUT TO BE PROVIDED IF REQUIRED.
7. GUIDE POSTS TO BE PROVIDED AT SPACINGS DETAILED IN TABLE ON SHEET 3.



TRAFFIC DEVICES PLAN
SCALE 1:250

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:1750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD	CHECKED	
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

BATHURST REGIONAL COUNCIL

PROJECT
SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION
TRAFFIC DEVICES PLAN
CH480.00 – CH820.00

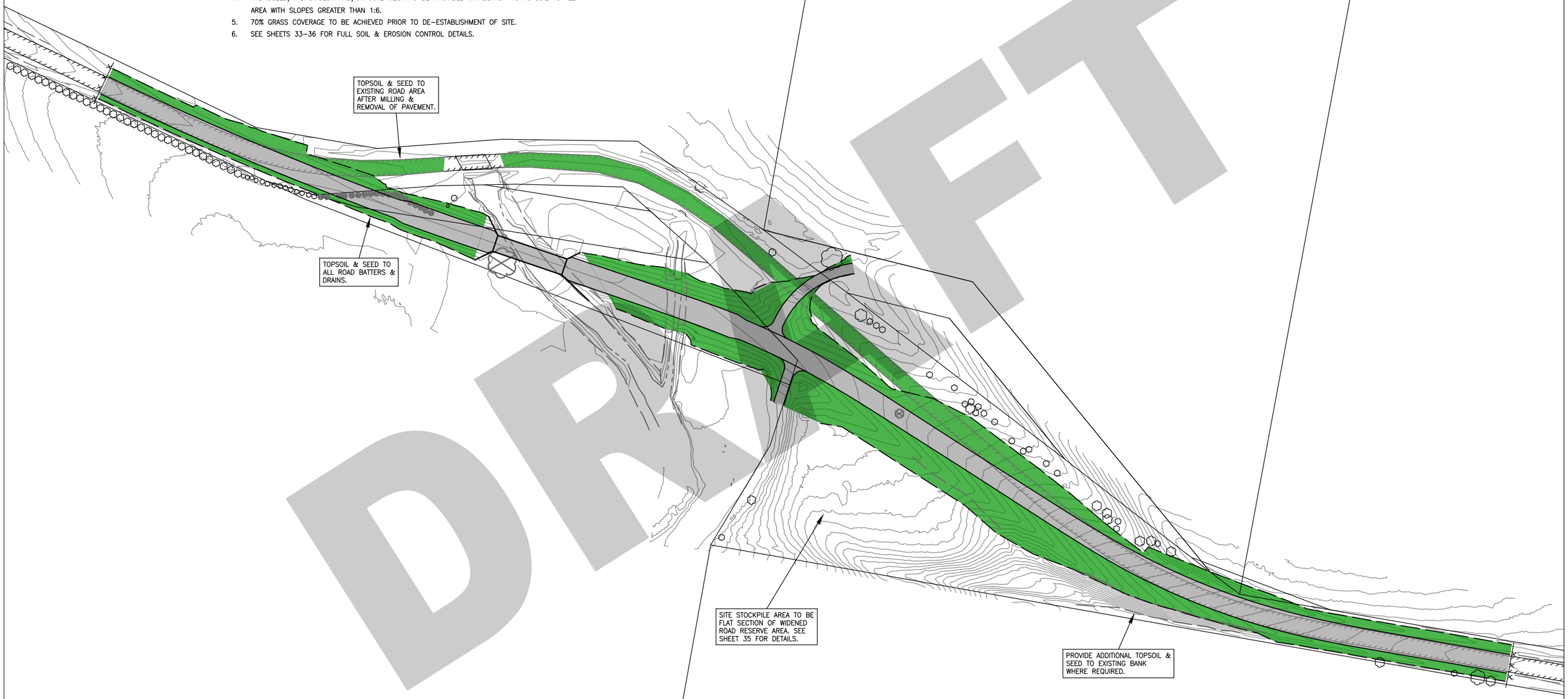
DWG No.	SHEET No.	REV.
EN12061	31	A

NORTH

NOTES:

SITE RESTORATION:

1. 150mm LAYER TOPSOIL TO BE STRIPPED FROM ALL GRASSED AREAS TO BE DISTURBED DURING WORKS. TOPSOIL TO BE STOCKPILED IN AREA SHOWN FOR SPREADING AS WORKS ARE COMPLETED.
2. MINIMUM 100mm LAYER TOPSOIL TO BE APPLIED TO GREEN HATCHED AREAS SHOWN. ANY ADDITIONAL EXPOSED/DISTURBED AREAS SHALL ALSO BE TOPSOILED. THIS SHALL INCLUDE BATTERS, EXISTING STOCKPILE AREAS AND AREAS WHERE EXISTING PAVEMENT HAS BEEN REMOVED PERMANENTLY.
3. SEED TO PROVIDED IN ADDITIONAL TO TOPSOIL AS A MINIMUM TO ALL AREAS.
4. HYDROSEED/HYDROMULCH AND/OR JUTE MESH TO BE PROVIDED IN ADDITION TO TOPSOIL TO ALL AREA WITH SLOPES GREATER THAN 1:6.
5. 70% GRASS COVERAGE TO BE ACHIEVED PRIOR TO DE-ESTABLISHMENT OF SITE.
6. SEE SHEETS 33-36 FOR FULL SOIL & EROSION CONTROL DETAILS.



DRAFT

SITE RESTORATION PLAN
NOT TO SCALE

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0	0.1	0.2	0.3	0.4	0.5					
1:20	0	0.2	0.4	0.6	0.8	1.0					
1:50	0	0.5	1.0	1.5	2.0	2.5					
1:100	0	1	2	3	4	5					
1:200	0	2	4	6	8	10					
1:250	0	2.5	5	7.5	10	12.5					
1:400	0	4	8	12	16	20					
1:500	0	5	10	15	20	25					
1:750	0	7.5	15	22.5	30	37.5					
1:1000	0	10	20	30	40	50					
1:2000	0	20	40	60	80	100					
1:5000	0	50	100	150	200	250					

SURVEYED	HY/MD	CHECKED	
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: SITE RESTORATION PLAN

DWG No.	SHEET No.	REV.
EN12061	32	A

NOTES:

EROSION & SEDIMENT CONTROL:

1. THIS EROSION & SEDIMENT CONTROL PLAN (ESCP) HAS BEEN PREPARED IN ACCORDANCE WITH BLUE BOOK VOLUME 1 (LANDCOM, 2004). THE PLAN SHALL BE UPDATED AS REQUIRED TO REFLECT CHANGES TO SITE CONDITIONS AND TO ENSURE THE RISK OF POLLUTION IS MANAGED.
2. TOPSOIL TO BE STRIPPED & SITE REHABILITATED IN ACCORDANCE WITH SHEET 32. MAINTAIN EXISTING VEGETATION DOWNSLOPE OF BATTERS AND UPSLOPE OF SEDIMENT FENCES.
3. ALL CONTROLS TO BE PLACE PRIOR TO COMMENCEMENT OF WORKS.
4. TEMPORARY CONTROLS MAY BE REMOVED FOLLOWING COMPLETION OF WORKS AND ONCE 70% GROUND COVER REHABILITATION HAS BEEN ACHIEVED.
5. STABILISED SITE ACCESS TO BE PROVIDED. LOCATION TO BE MODIFIED TO SUIT PROGRESSION OF WORKS.
6. CONTROLS SPECIFIED TO BE INSTALLED IN ACCORDANCE WITH BLUE BOOK SPECIFICATIONS.

EROSION HAZARD ASSESSMENT:

A = R x K x LS x C x P

THE FOLLOWING VALUES HAVE BEEN USED:

R = 1,300 (BATHURST)

K = 0.05 (ASSUMED FOR CLAY SOILS)

LS = 1.71 (COMPOSITE – AVERAGE OF 33% AT 10m AND 5% AT 80m)

C = 1 (CONSTRUCTION STAGE)

P = 1.3 (GENERAL CONSTRUCTION AREAS)

BASED ON THE ABOVE DATA, THE POTENTIAL SOIL LOSS IS 144t/ha/yr (SOIL LOSS CLASS 1 – VERY LOW). SEDIMENT BASINS NOT REQUIRED FOR THE SITE AS SOIL LOSS IS LESS THAN 200t/ha/yr.

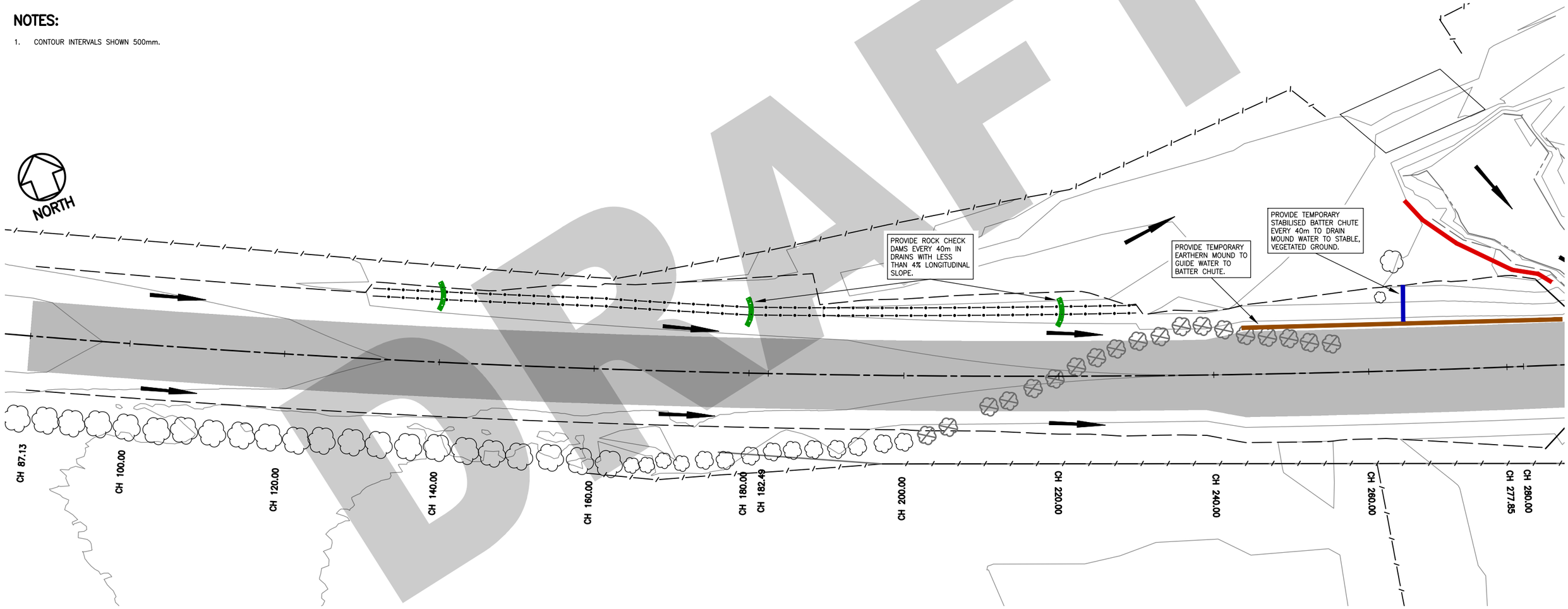
LEGEND

EROSION & SEDIMENT CONTROL

- TEMPORARY SEDIMENT FENCE OR MULCH BUND
- TEMPORARY EARTHERN MOUND
- TEMPORARY BATTER CHUTE
- PROPOSED STOCKPILE AREA
- PROPOSED HEADWALL INLET/OUTLET PROTECTION
- PROPOSED ROCK CHECK DAM (PERMANENT U.N.O.)
- DIRECTION OF SURFACE RUNOFF

NOTES:

1. CONTOUR INTERVALS SHOWN 500mm.



EROSION & SEDIMENT CONTROL PLAN CH87.13 – CH280.00

SCALE 1:250

DRAFT

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

		CHECKED	
SURVEYED	HY/MD		
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: EROSION & SEDIMENT CONTROL PLAN CH87.13 – CH280.00

DWG No.	SHEET No.	REV.
EN12061	33	A

NOTES:

EROSION & SEDIMENT CONTROL:

1. THIS EROSION & SEDIMENT CONTROL PLAN (ESCP) HAS BEEN PREPARED IN ACCORDANCE WITH BLUE BOOK VOLUME 1 (LANDCOM, 2004). THE PLAN SHALL BE UPDATED AS REQUIRED TO REFLECT CHANGES TO SITE CONDITIONS AND TO ENSURE THE RISK OF POLLUTION IS MANAGED.
2. TOPSOIL TO BE STRIPPED & SITE REHABILITATED IN ACCORDANCE WITH SHEET 32. MAINTAIN EXISTING VEGETATION DOWNSLOPE OF BATTERS AND UPSLOPE OF SEDIMENT FENCES.
3. ALL CONTROLS TO BE PLACE PRIOR TO COMMENCEMENT OF WORKS.
4. TEMPORARY CONTROLS MAY BE REMOVED FOLLOWING COMPLETION OF WORKS AND ONCE 70% GROUND COVER REHABILITATION HAS BEEN ACHIEVED.
5. STABILISED SITE ACCESS TO BE PROVIDED. LOCATION TO BE MODIFIED TO SUIT PROGRESSION OF WORKS.
6. CONTROLS SPECIFIED TO BE INSTALLED IN ACCORDANCE WITH BLUE BOOK SPECIFICATIONS.

EROSION HAZARD ASSESSMENT:

A = R x K x LS x C x P

THE FOLLOWING VALUES HAVE BEEN USED:

R = 1,300 (BATHURST)

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P = 1.3 (GENERAL CONSTRUCTION AREAS)

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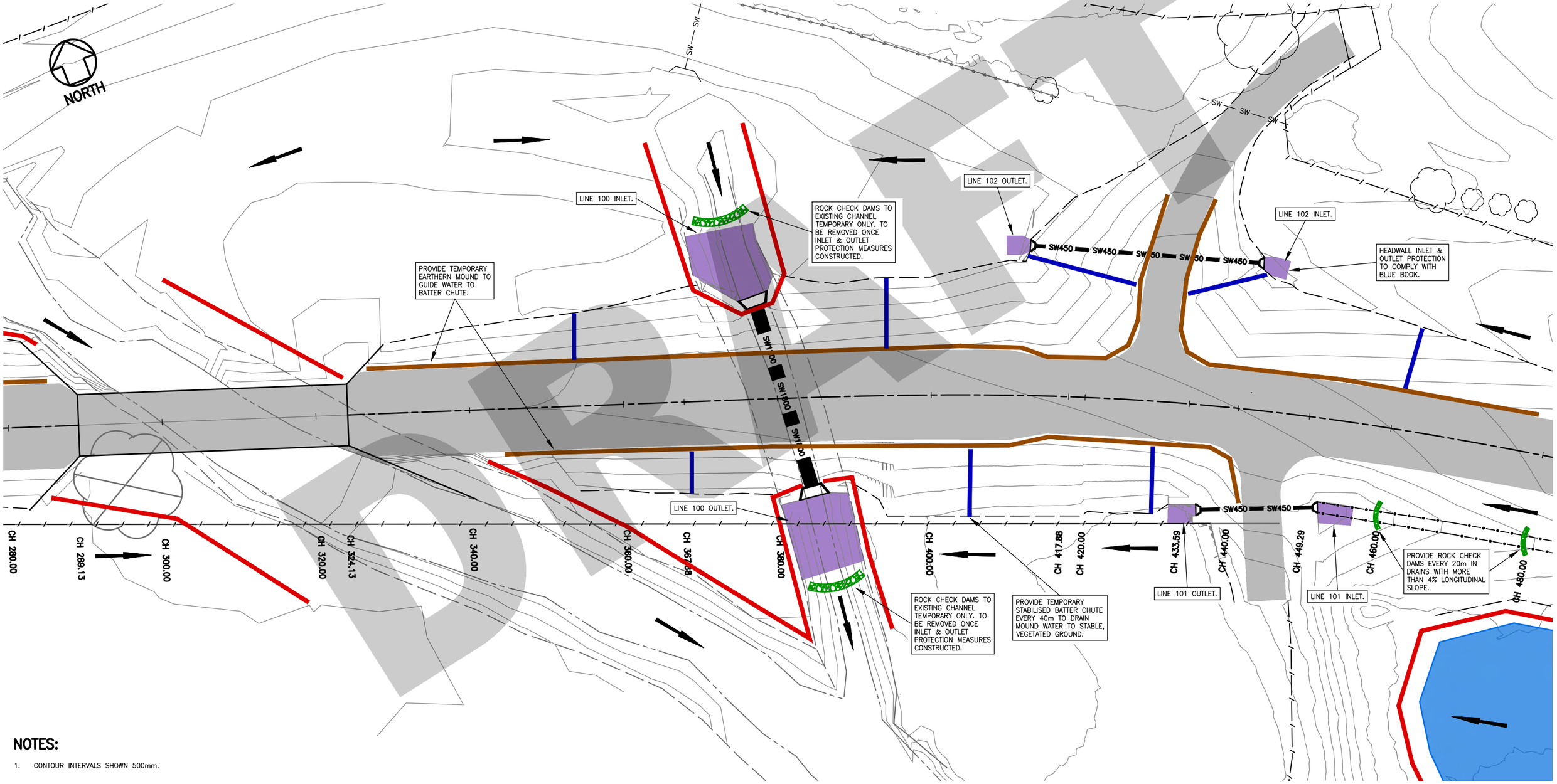
LEGEND

EROSION & SEDIMENT CONTROL

- TEMPORARY SEDIMENT FENCE OR MULCH BUND
- TEMPORARY EARTHERN MOUND
- TEMPORARY BATTER CHUTE
- PROPOSED STOCKPILE AREA
- PROPOSED HEADWALL INLET/OUTLET PROTECTION
- PROPOSED ROCK CHECK DAM (PERMANENT U.N.O.)
- DIRECTION OF SURFACE RUNOFF



NOTES:

1. CONTOUR INTERVALS SHOWN 500mm.

EROSION & SEDIMENT CONTROL PLAN CH280.00 – CH480.00

SCALE 1:250

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
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		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD	CHECKED	
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: EROSION & SEDIMENT CONTROL PLAN CH280.00 – CH480.00

DWG No.	SHEET No.	REV.
EN12061	34	A

NOTES:

EROSION & SEDIMENT CONTROL:

1. THIS EROSION & SEDIMENT CONTROL PLAN (ESCP) HAS BEEN PREPARED IN ACCORDANCE WITH BLUE BOOK VOLUME 1 (LANDCOM, 2004). THE PLAN SHALL BE UPDATED AS REQUIRED TO REFLECT CHANGES TO SITE CONDITIONS AND TO ENSURE THE RISK OF POLLUTION IS MANAGED.
2. TOPSOIL TO BE STRIPPED & SITE REHABILITATED IN ACCORDANCE WITH SHEET 32. MAINTAIN EXISTING VEGETATION DOWNSLOPE OF BATTERS AND UPSLOPE OF SEDIMENT FENCES.
3. ALL CONTROLS TO BE PLACE PRIOR TO COMMENCEMENT OF WORKS.
4. TEMPORARY CONTROLS MAY BE REMOVED FOLLOWING COMPLETION OF WORKS AND ONCE 70% GROUND COVER REHABILITATION HAS BEEN ACHIEVED.
5. STABILISED SITE ACCESS TO BE PROVIDED. LOCATION TO BE MODIFIED TO SUIT PROGRESSION OF WORKS.
6. CONTROLS SPECIFIED TO BE INSTALLED IN ACCORDANCE WITH BLUE BOOK SPECIFICATIONS.

EROSION HAZARD ASSESSMENT:

A = R x K x LS x C x P

THE FOLLOWING VALUES HAVE BEEN USED:

R = 1,300 (BATHURST)

K = 0.05 (ASSUMED FOR CLAY SOILS)

LS = 1.71 (COMPOSITE – AVERAGE OF 33% AT 10m AND 5% AT 80m)

C = 1 (CONSTRUCTION STAGE)

P = 1.3 (GENERAL CONSTRUCTION AREAS)

BASED ON THE ABOVE DATA, THE POTENTIAL SOIL LOSS IS 144t/ha/yr (SOIL LOSS CLASS 1 – VERY LOW). SEDIMENT BASINS NOT REQUIRED FOR THE SITE AS SOIL LOSS IS LESS THAN 200t/ha/yr.

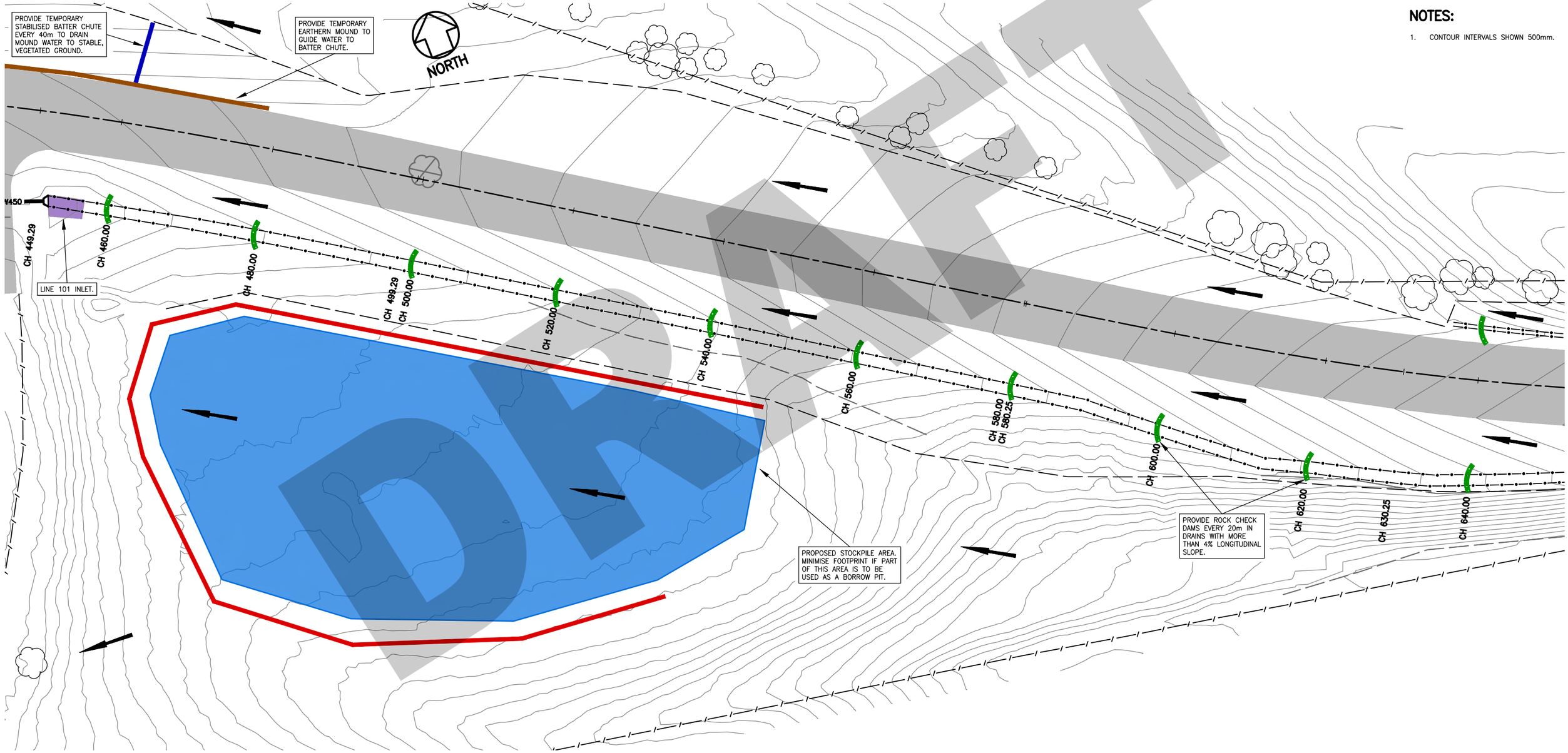
LEGEND

EROSION & SEDIMENT CONTROL

- TEMPORARY SEDIMENT FENCE OR MULCH BUND
- TEMPORARY EARTHERN MOUND
- TEMPORARY BATTER CHUTE
- PROPOSED STOCKPILE AREA
- PROPOSED HEADWALL INLET/OUTLET PROTECTION
- PROPOSED ROCK CHECK DAM (PERMANENT U.N.O.)
- DIRECTION OF SURFACE RUNOFF

NOTES:

1. CONTOUR INTERVALS SHOWN 500mm.



EROSION & SEDIMENT CONTROL PLAN CH449.29 – CH640.00

SCALE 1:250

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10	0 0.1 0.2 0.3 0.4 0.5	1:200	0 2 4 6 8 10
1:20	0 0.2 0.4 0.6 0.8 1.0	1:250	0 2.5 5 7.5 10 12.5
1:50	0 0.5 1.0 1.5 2.0 2.5	1:400	0 4 8 12 16 20
1:100	0 1 2 3 4 5	1:500	0 5 10 15 20 25
1:750	0 7.5 15 22.5 30 37.5		
1:1000	0 10 20 30 40 50		
1:2000	0 20 40 60 80 100		
1:5000	0 50 100 150 200 250		

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: EROSION & SEDIMENT CONTROL PLAN CH449.29 – CH640.00

DWG No.	SHEET No.	REV.
EN12061	35	A

NOTES:

EROSION & SEDIMENT CONTROL:

1. THIS EROSION & SEDIMENT CONTROL PLAN (ESCP) HAS BEEN PREPARED IN ACCORDANCE WITH BLUE BOOK VOLUME 1 (LANDCOM, 2004). THE PLAN SHALL BE UPDATED AS REQUIRED TO REFLECT CHANGES TO SITE CONDITIONS AND TO ENSURE THE RISK OF POLLUTION IS MANAGED.
2. TOPSOIL TO BE STRIPPED & SITE REHABILITATED IN ACCORDANCE WITH SHEET 32. MAINTAIN EXISTING VEGETATION DOWNSLOPE OF BATTERS AND UPSLOPE OF SEDIMENT FENCES.
3. ALL CONTROLS TO BE PLACE PRIOR TO COMMENCEMENT OF WORKS.
4. TEMPORARY CONTROLS MAY BE REMOVED FOLLOWING COMPLETION OF WORKS AND ONCE 70% GROUND COVER REHABILITATION HAS BEEN ACHIEVED.
5. STABILISED SITE ACCESS TO BE PROVIDED. LOCATION TO BE MODIFIED TO SUIT PROGRESSION OF WORKS.
6. CONTROLS SPECIFIED TO BE INSTALLED IN ACCORDANCE WITH BLUE BOOK SPECIFICATIONS.

EROSION HAZARD ASSESSMENT:

A = R x K x LS x C x P

THE FOLLOWING VALUES HAVE BEEN USED:

R = 1,300 (BATHURST)

K = 0.05 (ASSUMED FOR CLAY SOILS)

LS = 1.71 (COMPOSITE – AVERAGE OF 33% AT 10m AND 5% AT 80m)

C = 1 (CONSTRUCTION STAGE)

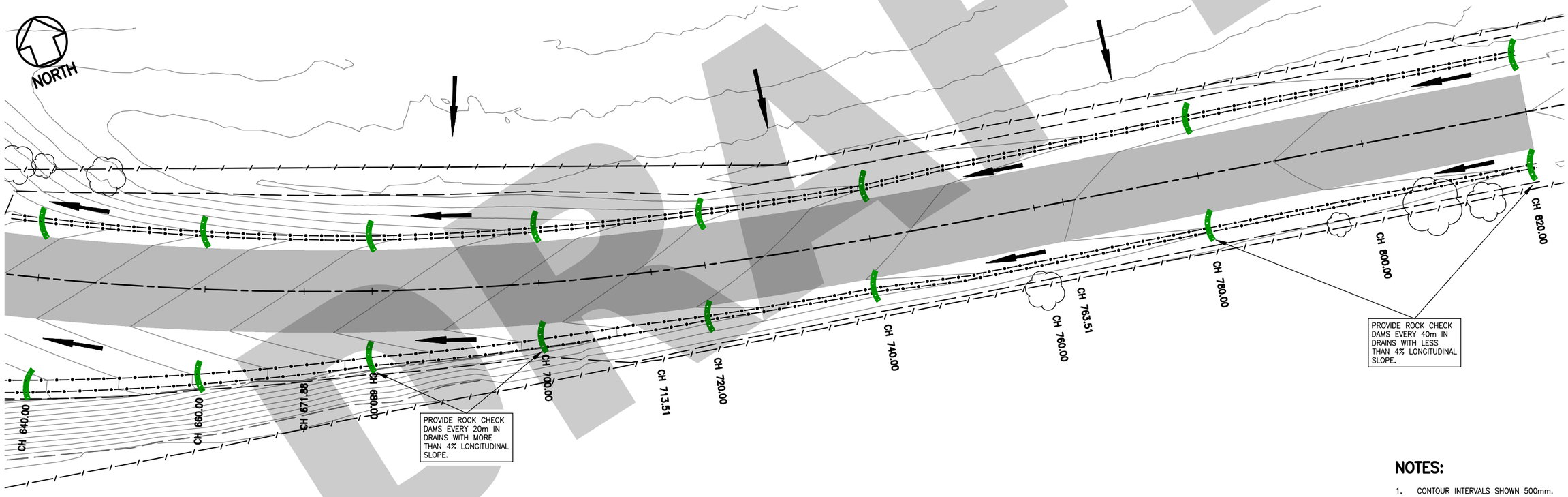
P = 1.3 (GENERAL CONSTRUCTION AREAS)

BASED ON THE ABOVE DATA, THE POTENTIAL SOIL LOSS IS 144t/ha/yr (SOIL LOSS CLASS 1 – VERY LOW). SEDIMENT BASINS NOT REQUIRED FOR THE SITE AS SOIL LOSS IS LESS THAN 200t/ha/yr.

LEGEND

EROSION & SEDIMENT CONTROL

- TEMPORARY SEDIMENT FENCE OR MULCH BUND
- TEMPORARY EARTHERN MOUND
- TEMPORARY BATTER CHUTE
- PROPOSED STOCKPILE AREA
- PROPOSED HEADWALL INLET/OUTLET PROTECTION
- PROPOSED ROCK CHECK DAM (PERMANENT U.N.O.)
- DIRECTION OF SURFACE RUNOFF



NOTES:

1. CONTOUR INTERVALS SHOWN 500mm.

EROSION & SEDIMENT CONTROL PLAN CH640.00 – CH820.00

SCALE 1:250

CONSULTANT		REV	DESCRIPTION	INITIALS	DATE
		A	ISSUED FOR APPROVAL	MC	01/09/23
		----	----	----	----
		----	----	----	----
CHECKED	APPROVED				

SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD	CHECKED	
DRAWN	MC	TECHNICAL SERVICES MANAGER	
DESIGN	MC		
DATE	01/09/23	DIRECTOR ENGINEERING SERVICES	
DATUM	MGA55 GDA20, AHD		

BATHURST REGIONAL COUNCIL

PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: EROSION & SEDIMENT CONTROL PLAN CH640.00 – CH820.00

DWG No.	SHEET No.	REV.
EN12061	36	A

TARANA ROAD CL SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
87.13	748018.092	6293199.013	686.686
100.00	748029.720	6293193.498	686.437
110.00	748038.786	6293189.277	686.275
115.00	748043.328	6293187.188	686.204
120.00	748047.877	6293185.113	686.140
130.00	748056.995	6293181.006	686.032
140.00	748066.138	6293176.956	685.951
150.00	748075.307	6293172.964	685.891
160.00	748084.500	6293169.028	685.831
170.00	748093.717	6293165.151	685.771
180.00	748102.959	6293161.331	685.711
190.00	748112.224	6293157.568	685.651
200.00	748121.513	6293153.864	685.596
210.00	748130.824	6293150.218	685.554
215.08	748135.566	6293148.387	685.538
220.00	748140.159	6293146.630	685.524
230.00	748149.515	6293143.101	685.506
240.00	748158.893	6293139.630	685.500
250.00	748168.293	6293136.218	685.500
260.00	748177.714	6293132.864	685.500
270.00	748187.156	6293129.570	685.500
277.85	748194.584	6293127.024	685.500
289.13	748205.263	6293123.394	685.500
300.00	748215.553	6293119.896	685.500
310.00	748225.021	6293116.677	685.500
320.00	748234.489	6293113.459	685.500
324.13	748238.401	6293112.129	685.500
330.00	748243.957	6293110.240	685.500
340.00	748253.425	6293107.022	685.500
350.00	748262.893	6293103.803	685.506
360.00	748272.361	6293100.585	685.550
367.88	748279.820	6293098.049	685.589
380.00	748291.291	6293094.131	685.653
390.00	748300.729	6293090.828	685.728
400.00	748310.124	6293087.401	685.830
410.00	748319.451	6293083.796	685.958
417.88	748326.735	6293080.795	686.078
430.00	748337.804	6293075.854	686.295
440.00	748346.796	6293071.481	686.504
449.29	748355.033	6293067.179	686.722
460.00	748364.378	6293061.954	687.001
465.54	748369.161	6293059.154	687.158
470.00	748372.985	6293056.863	687.290
480.00	748381.502	6293051.623	687.605
490.00	748389.959	6293046.286	687.947
499.29	748397.791	6293041.284	688.288
510.00	748406.809	6293035.513	688.711
520.00	748415.232	6293030.122	689.132
530.00	748423.655	6293024.732	689.581
540.00	748432.078	6293019.342	690.056
550.00	748440.501	6293013.952	690.558
560.00	748448.924	6293008.562	691.084
570.00	748457.347	6293003.171	691.614
580.25	748465.983	6292997.645	692.157
590.00	748474.198	6292992.399	692.674
600.00	748482.657	6292987.065	693.204
610.00	748491.177	6292981.831	693.729
620.00	748499.789	6292976.748	694.236
630.25	748508.740	6292971.750	694.736
640.00	748517.383	6292967.244	695.194
650.00	748526.382	6292962.882	695.645
660.00	748535.505	6292958.790	696.078
670.00	748544.747	6292954.970	696.492
680.00	748554.097	6292951.426	696.887
690.00	748563.549	6292948.160	697.264
700.00	748573.093	6292945.177	697.623
705.00	748577.897	6292943.792	697.795
713.51	748586.120	6292941.599	698.078
720.00	748592.425	6292940.063	698.284
730.00	748602.188	6292937.900	698.587
740.00	748611.992	6292935.931	698.872
750.00	748621.823	6292934.098	699.138
763.51	748635.125	6292931.737	699.467
770.00	748641.517	6292930.615	699.614
780.00	748651.366	6292928.885	699.824
790.00	748661.216	6292927.155	700.016
800.00	748671.065	6292925.426	700.189
810.00	748680.914	6292923.696	700.344
820.00	748690.763	6292921.966	700.494

DRIVEWAY 1 CL SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748341.270	6293046.853	684.171
0.39	748341.391	6293047.228	684.187
4.89	748342.769	6293051.511	684.502
9.39	748344.148	6293055.795	685.087
10.00	748344.334	6293056.372	685.184
10.80	748344.579	6293057.134	685.312
15.30	748345.958	6293061.417	685.914
19.80	748347.337	6293065.701	686.281
19.80	748347.338	6293065.702	686.281
19.80	748347.338	6293065.702	686.281
20.00	748347.398	6293065.891	686.292
20.82	748347.648	6293066.667	686.337
24.77	748348.860	6293070.430	686.556

DRIVEWAY 1 LEF SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748338.890	6293047.619	684.096
0.39	748339.011	6293047.994	684.112
4.89	748340.390	6293052.278	684.427
9.39	748341.769	6293056.561	685.012
10.00	748341.954	6293057.138	685.109
10.80	748342.200	6293057.900	685.237
15.30	748343.578	6293062.183	685.839
19.80	748344.957	6293066.467	686.206
19.80	748344.958	6293066.468	686.206
19.80	748344.958	6293066.468	686.206
20.00	748345.019	6293066.657	686.217
20.82	748345.269	6293067.433	686.262
24.77	748346.480	6293071.196	686.481

DRIVEWAY 1 REF SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748343.650	6293046.087	684.246
0.39	748343.770	6293046.462	684.262
4.89	748345.149	6293050.745	684.577
9.39	748346.528	6293055.029	685.162
10.00	748346.714	6293055.606	685.259
10.80	748346.959	6293056.368	685.387
15.30	748348.338	6293060.651	685.989
19.80	748349.717	6293064.935	686.356
19.80	748349.717	6293064.936	686.356
19.80	748349.717	6293064.936	686.356
20.00	748349.778	6293065.125	686.367
20.82	748350.028	6293065.901	686.412
24.77	748351.239	6293069.664	686.631

DRIVEWAY 2 CL SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748376.797	6293111.414	685.383
3.57	748373.299	6293110.725	685.240
5.51	748371.396	6293110.307	685.162
10.00	748367.096	6293109.035	685.051
11.44	748365.745	6293108.537	685.044
15.51	748362.017	6293106.896	685.100
20.00	748358.104	6293104.708	685.291
25.51	748353.622	6293101.501	685.712
30.00	748350.286	6293098.504	686.139
31.00	748349.585	6293097.792	686.234
40.00	748344.028	6293090.731	686.775
41.00	748343.501	6293089.881	686.796
43.50	748342.266	6293087.708	686.816
45.93	748341.182	6293085.530	686.788
50.00	748339.469	6293081.841	686.640
51.00	748339.048	6293080.935	686.584
51.23	748338.951	6293080.726	686.570
52.23	748338.529	6293079.819	686.510
56.13	748336.887	6293076.282	686.276

DRIVEWAY 2 LEF SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748377.280	6293108.961	685.458
3.57	748373.782	6293108.272	685.315
5.51	748371.984	6293107.878	685.237
10.00	748367.923	6293106.676	685.126
11.44	748366.648	6293106.206	685.119
15.51	748363.127	6293104.656	685.175
20.00	748359.431	6293102.589	685.366
25.51	748355.198	6293099.561	685.787
30.00	748352.048	6293096.730	686.214
31.00	748351.385	6293096.057	686.309
40.00	748346.138	6293089.389	686.850
41.00	748345.640	6293088.586	686.871
43.50	748344.473	6293086.534	686.891
45.93	748343.449	6293084.477	686.863
50.00	748341.736	6293080.788	686.715
51.00	748341.315	6293079.881	686.659
51.23	748341.218	6293079.673	686.645
52.23	748340.797	6293078.766	686.585
56.13	748339.154	6293075.229	686.351

DRIVEWAY 2 REF SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748376.314	6293113.867	685.308
3.57	748372.816	6293113.178	685.165
5.51	748370.807	6293112.737	685.087
10.00	748366.268	6293111.394	684.976
11.44	748364.842	6293110.868	684.969
15.51	748360.908	6293109.136	685.025
20.00	748356.776	6293106.826	685.216
25.51	748352.045	6293103.442	685.637
30.00	748348.525	6293100.278	686.064
31.00	748347.784	6293099.526	686.159
40.00	748341.919	6293092.073	686.700
41.00	748341.362	6293091.176	686.721
43.50	748340.059	6293088.882	686.741
45.93	748338.915	6293086.583	686.713
50.00	748337.201	6293082.895	686.565
51.00	748336.780	6293081.988	686.509
51.23	748336.683	6293081.779	686.495
52.23	748336.262	6293080.872	686.435
56.13	748334.619	6293077.335	686.201

KR1 SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748343.766	6293062.767	685.903
3.09	748343.774	6293065.809	686.122
3.57	748343.609	6293066.254	686.139
7.13	748341.209	6293068.788	686.127

KR2 SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748354.919	6293061.680	686.505
4.06	748350.986	6293062.060	686.280
4.41	748350.664	6293061.945	686.252
8.81	748347.752	6293058.831	685.762

KR3 SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748332.213	6293083.768	686.437
1.94	748334.091	6293083.348	686.485
3.87	748335.989	6293083.670	686.564
5.81	748337.624	6293084.684	686.647
7.75	748338.756	6293086.240	686.705

KR4 SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748343.290	6293084.134	686.855
1.94	748342.831	6293082.265	686.804
3.87	748343.111	6293080.362	686.743
5.81	748344.089	6293078.705	686.703
7.75	748345.621	6293077.540	686.717

STORMWATER SETOUT

PIT	EASTING	NORTHING	TOP RL	INVERT RL (OUTLET)	DESCRIPTION
01.100	748291.421	6293082.006	684.830	682.23	1800ø PRECAST HEADWALL
02.100	748293.031	6293106.353	684.860	682.39	1800ø PRECAST HEADWALL
01.101	748337.431	6293060.963	684.590	683.70	450ø PRECAST HEADWALL
02.101	748351.221	6293055.965	684.700	684.70	450ø PRECAST HEADWALL
01.102	748329.666	6293100.671	684.890	684.00	450ø PRECAST HEADWALL
02.102	748356.132	6293088.145	685.690	684.80	450ø PRECAST HEADWALL

SW LINE 101 UPSTREAM HEADWALL RHS TABLE DRAIN

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748367.414	6293047.655	686.103
10.00	748358.726	6293052.607	685.312
17.74	748352.002	6293056.439	684.700

SW LINE 101 UPSTREAM HEADWALL LHS TABLE DRAIN

CHAINAGE	EASTING	NORTHING	LEVEL
0.00	748366.639	6293046.371	686.103
10.00	748357.995	6293051.399	685.297
17.42	748351.584	6293055.128	684.700

DRAFT

CONSULTANT

CHECKED | APPROVED

REV	DESCRIPTION	INITIALS	DATE
A	ISSUED FOR APPROVAL	MC	01/09/23
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SCALES IN METRES (A1)

1:10 0 0.1 0.2 0.3 0.4 0.5
1:20 0 0.2 0.4 0.6 0.8 1.0
1:50 0 0.5 1.0 1.5 2.0 2.5
1:100 0 1 2 3 4 5
1:200 0 2 4 6 8 10
1:250 0 2.5 5 7.5 10 12.5
1:400 0 4 8 12 16 20
1:500 0 5 10 15 20 25
1:750 0 7.5 15 22.5 30 37.5
1:1000 0 10 20 30 40 50
1:2000 0 20 40 60 80 100
1:5000 0 50 100 150 200 250

SURVEYED	HY/MD
DRAWN	MC
DESIGN	MC
DATE	01/09/23
DATUM	MGA55 GDA20, AHD

CHECKED

TECHNICAL SERVICES MANAGER

DIRECTOR ENGINEERING SERVICES

BATHURST REGIONAL COUNCIL

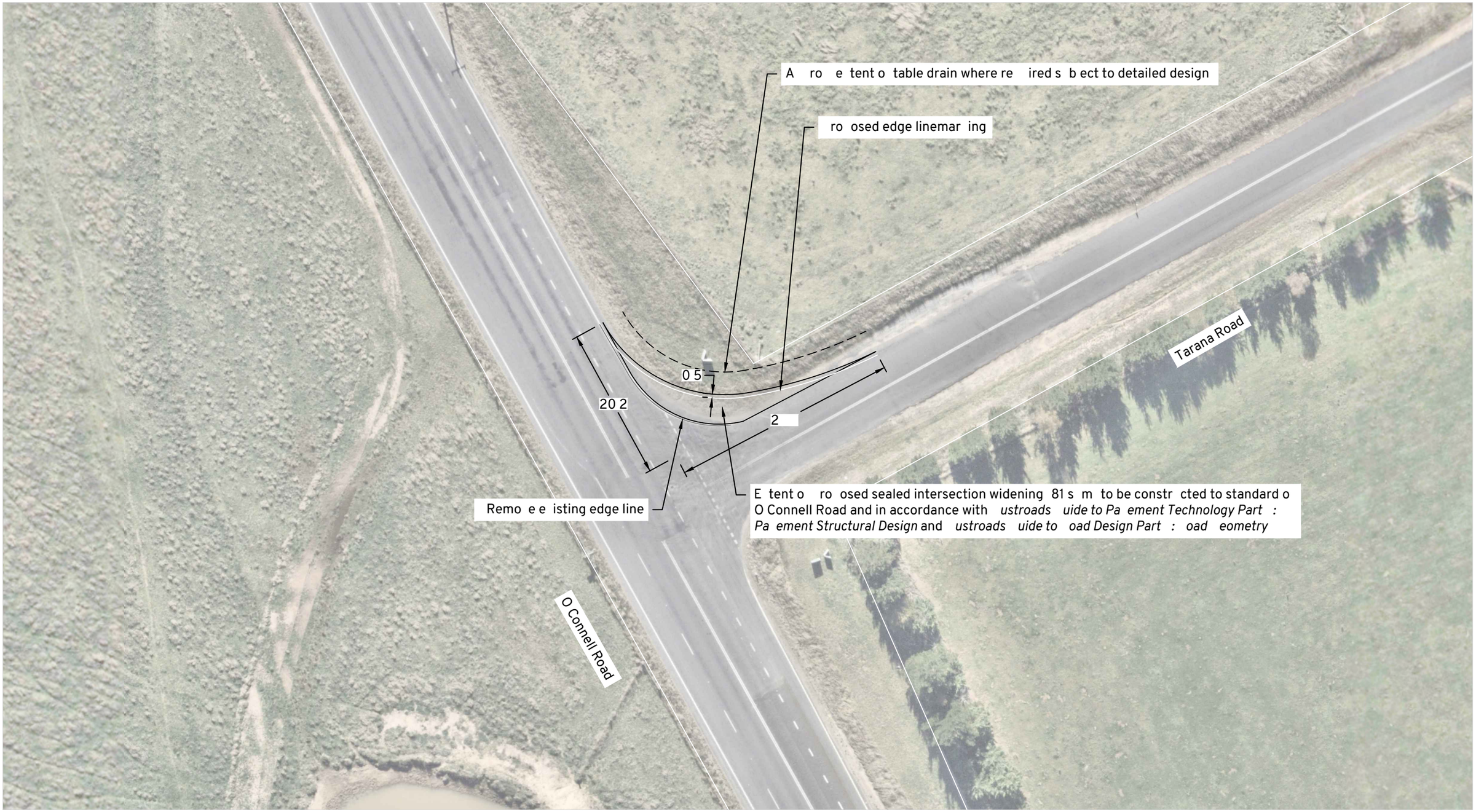
PROJECT: SALTWATER CREEK BRIDGE, TARANA ROAD RECONSTRUCTION & APPROACH REALIGNMENT

DESCRIPTION: SETOUT DETAILS

DWG No.	SHEET No.	REV.
EN12061	37	A

Appendix F

Strategic Design and Swept Path Assessment – O'Connell Road / Tarana Road



Note: Property boundaries based on NSW Land Parcel Property Theme dataset.

Brewongle Solar Farm
O Connell Road / Tarana Road
Strategic Design

DRAWN: OM
DATE: 24/08/2025
DWG NO: 781 S02A
SCALE at A3: 1:500

Amber 01

Tarana Road

O Connell Road

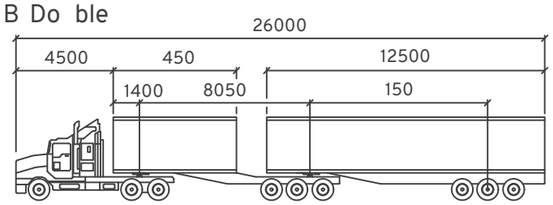
Vehicle En elo e

500mm Clearance

Re erse Manoe re

Min. Design Speed 15km/h

26 0m B Do ble



	mm
Tractor Width	: 2500
Trailer Width	: 2500
Tractor Trac	: 2500
Trailer Trac	: 2500
Loc to Loc	: 6 0s
Steering Angle	: 22 2
Artic lating Angle	70 0

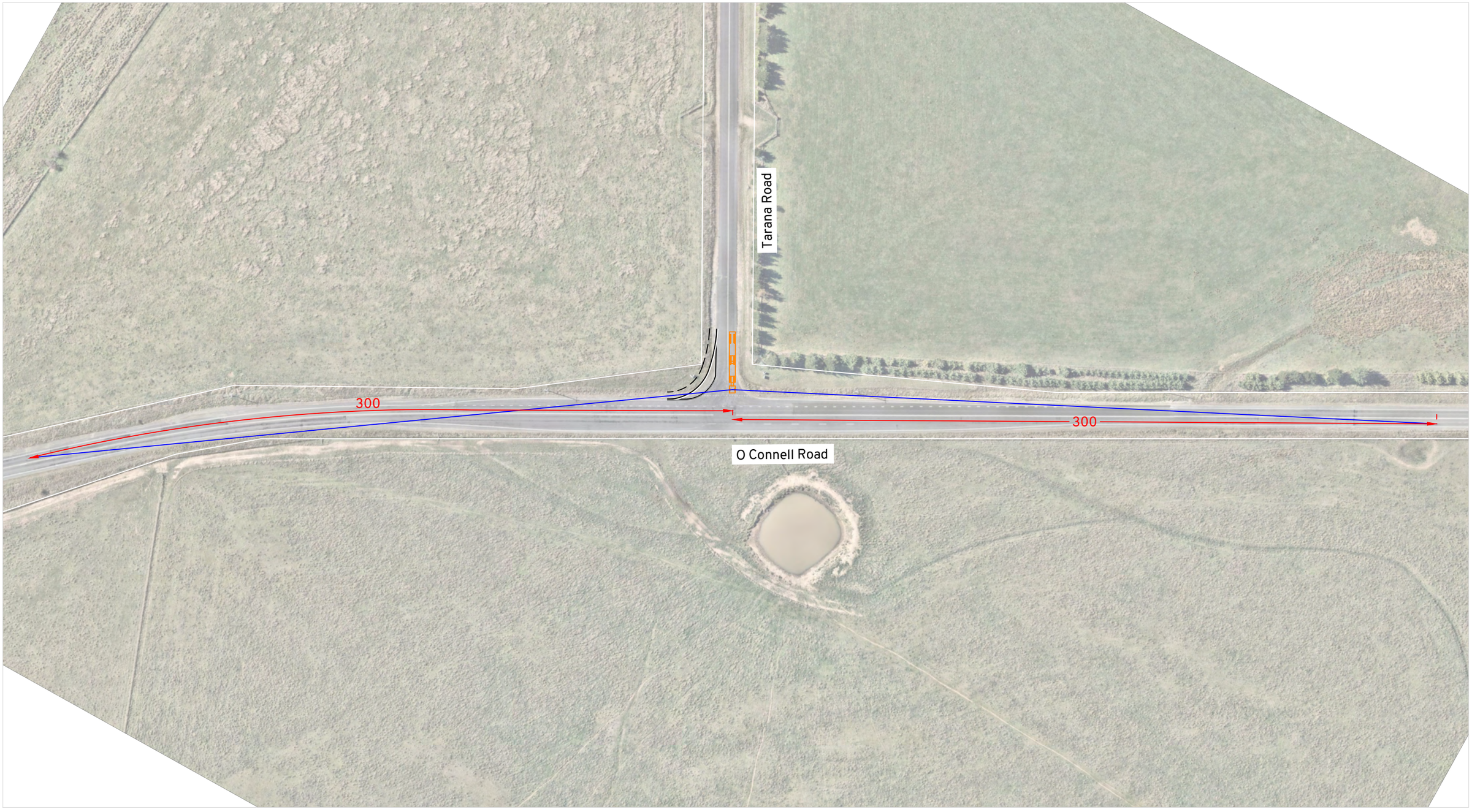
Brewongle Solar Farm

O Connell Road / Tarana Road

Swe t ath Assessment

DRAWN: OM
DATE: 24/08/2025
DWG NO: 781 S02A
SCALE at A3: 1:500

Amber 02



Sight Distance

Sight Line

Brewongle Solar Farm

O Connell Road / Tarana Road

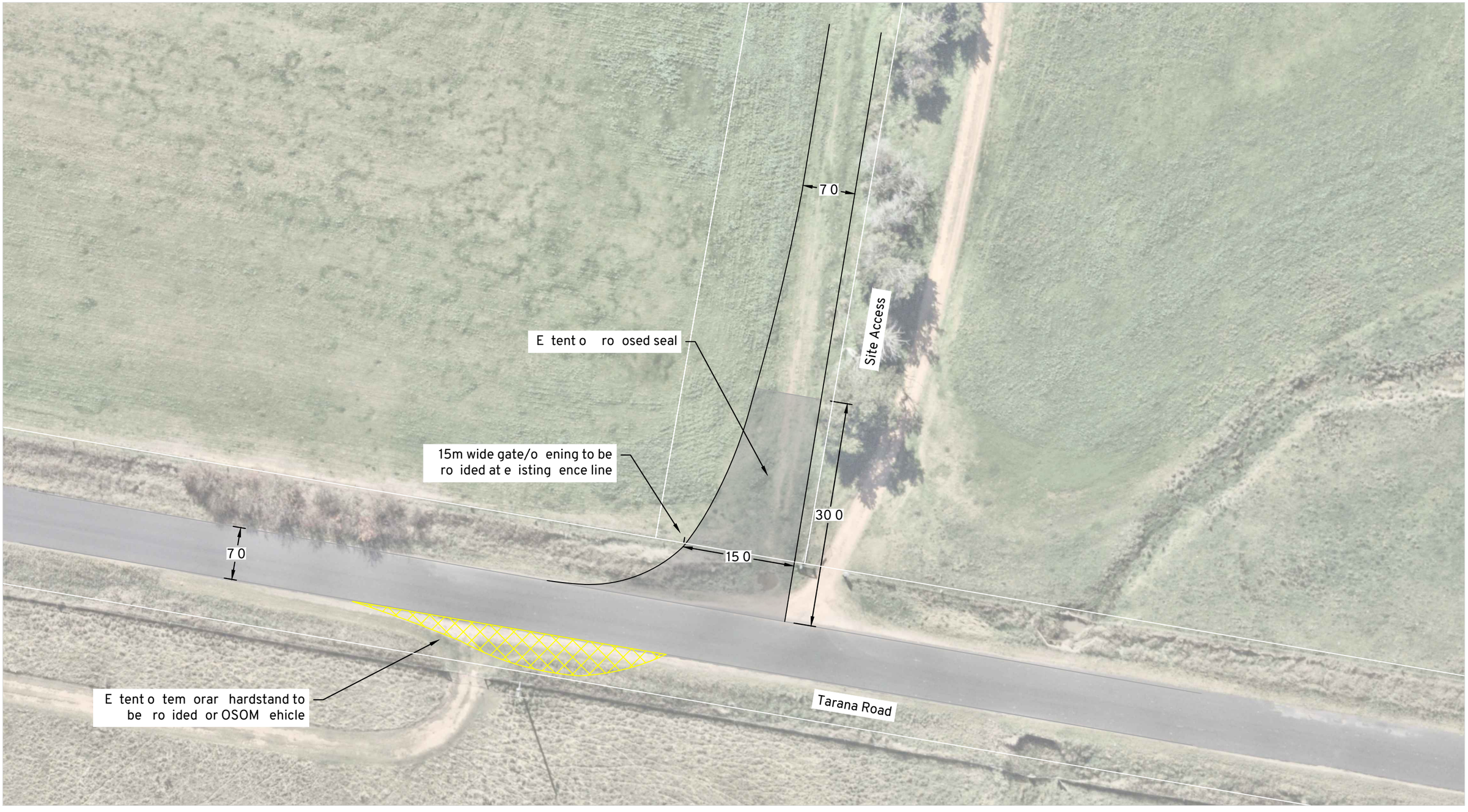
Sight Distance Assessment

DRAWN: OM
DATE: 24/08/2025
DWG NO: 781 S02A
SCALE at A3: 1:1600

Amber SD1

Appendix G

Site Access Design and Swept Path Assessment



Note: Property boundaries based on NSW Land Parcel Property Theme dataset.

Brewongle Solar Farm
315 Tarana Road, Brewongle
Access Design

DRAWN: OM
DATE: 24/08/2025
DWG NO: 781 S02A
SCALE at A3: 1:500

Amber 03

Site Access

Tarana Road

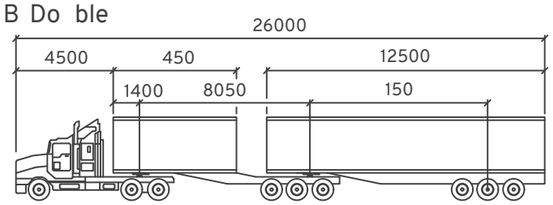
Vehicle En elo e

500mm Clearance

Re erse Manoe re

Min. Design Speed 15km/h

26 0m B Do ble



	mm
Tractor Width	: 2500
Trailer Width	: 2500
Tractor Trac	: 2500
Trailer Trac	: 2500
Loc to Loc	: 6 0s
Steering Angle	: 22 2
Artic lating Angle	70 0

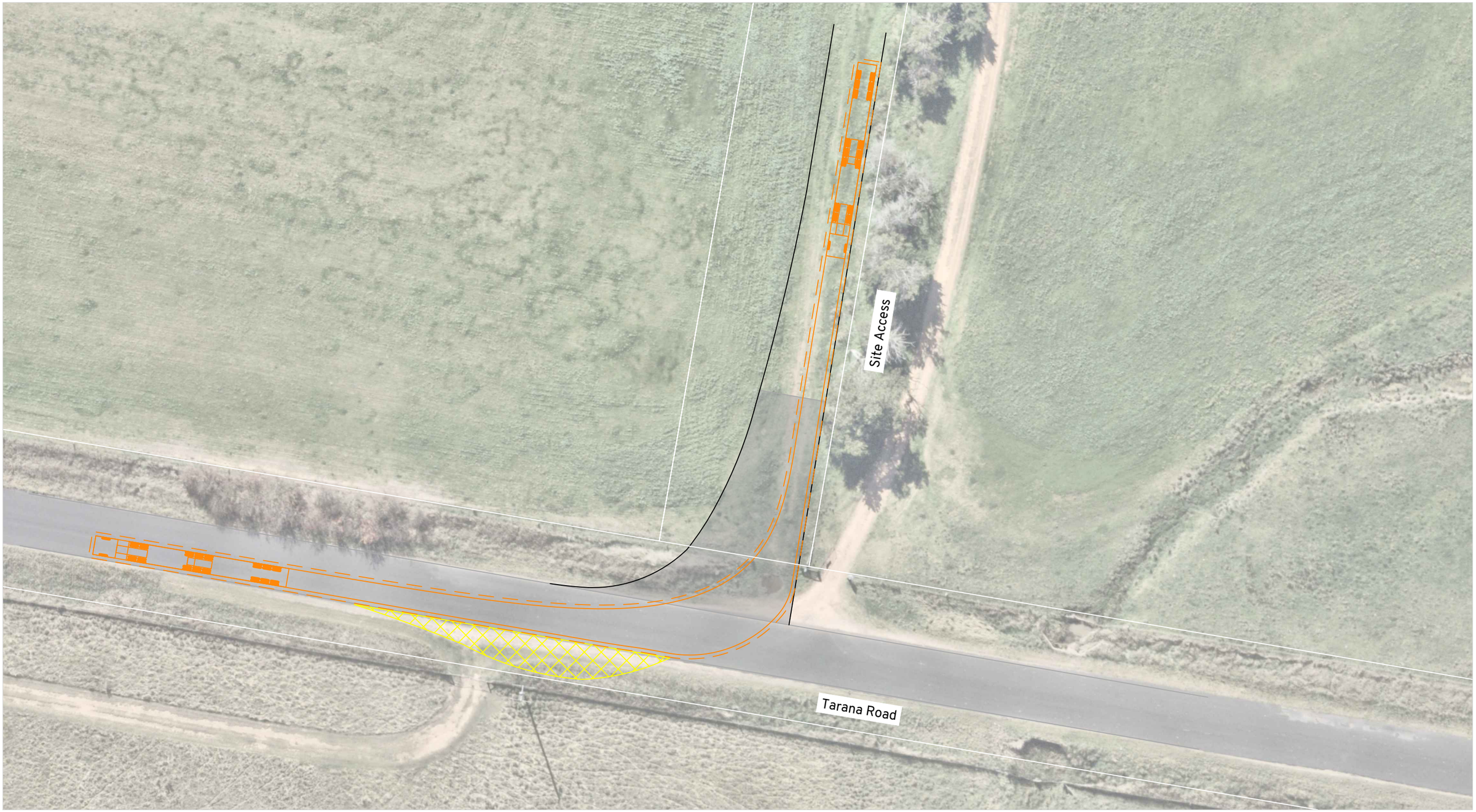
Brewongle Solar Farm

315 Tarana Road, Brewongle

Swe t ath Assessment

DRAWN: OM
DATE: 24/08/2025
DWG NO: 781 S02A
SCALE at A3: 1:500

Amber 04



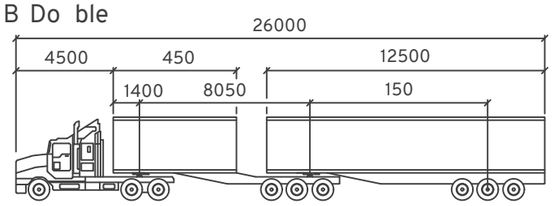
Vehicle En elo e

500mm Clearance

Re erse Manoe re

Min. Design Speed 15km/h

26 0m B Do ble



	mm
Tractor Width	: 2500
Trailer Width	: 2500
Tractor Trac	: 2500
Trailer Trac	: 2500
Loc to Loc	: 6 0s
Steering Angle	: 22 2
Artic lating Angle	70 0

Brewongle Solar Farm

315 Tarana Road, Brewongle

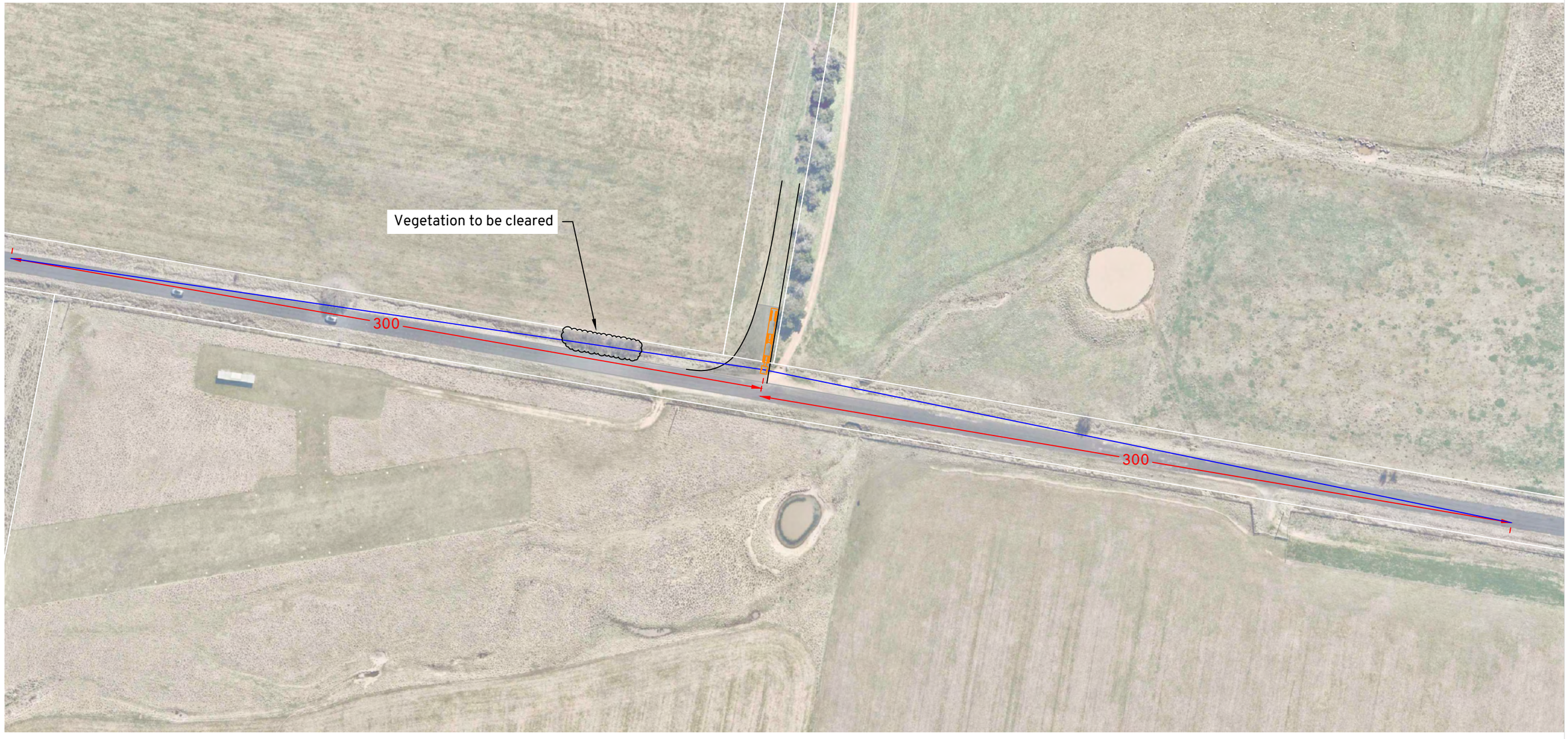
Swe t ath Assessment

DRAWN: OM
DATE: 24/08/2025
DWG NO: 781 S02A
SCALE at A3: 1:500

Amber 05

Appendix H

Sight Distance Assessment – Site Access / Tarana Road



Sight Distance

Sight Line

Brewongle Solar Farm

315 Tarana Road, Brewongle

Sight Distance Assessment

DRAWN: OM
DATE: 24/08/2025
DWG NO: 781 S02A
SCALE at A3: 1:1600

Amber SD2

Appendix I

Rail Authority Correspondence

From: Sophie Cain on behalf of HeavyVehicle
To: Shannon Eduards
Subject: RE: Advice on level rail crossings
Date: Monday, 12 August 2024 2:53:58 PM
Attachments: image003.png
image001.png

Good afternoon Shannon,

Engineering have reviewed the questions raised and have provided the below response:

For high level information purposes, based on the limited details available to date, I would suggest that it is highly likely that a Protection Officer would be required as a condition of any future approval (if applicable) to manage safe crossing over this LX. This requirement is a standard for Class 1 loads of this nature unless the applicant can demonstrate satisfactorily with their application that it is not required to ensure safe access over our assets. It should also be noted that this LX is on the Main West which is a passenger and higher rail traffic volume line and the risks are therefore greater as a result of OSOM movements.
UGLRL would need to review a Traffic Management Plan and further details (vehicles, loads, number of journeys, program of movements) at the application stage to confirm all applicable requirements.

If you require additional information please don't hesitate to contact heavyvehicle@uglregionallinx.com.au

Kind Regards,

Sophie Cain
Third Party Works Officer
Transport
UGL Regional Linx Pty. Ltd.

161 Kite Street | Orange NSW 2800 | Australia
Direct: 02 4923 5341
Email: sophie.cain@uglregionallinx.com.au
Web: www.uglregionallinx.com.au

Please consider our environmental footprint before printing this e-mail

From: Shannon Eduards <seduards@amberorg.com.au>
Sent: Friday, 19 July 2024 2:38 PM
To: HeavyVehicle <heavyvehicle@uglregionallinx.com.au>
Subject: Fw: Advice on level rail crossings

CAUTION: This email originated from outside of the Organisation.

Hi there,

I believe I'm still waiting on a reply to the below email. Is anyone able to give some high level response to the questions below? We are hoping to issue our final Traffic Impact Assessment with this information within a week.

Thanks and regards

Shannon Eduards

BE (Hons) Civil

Traffic Engineer

Ph: +61 434 378 886

From: Shannon Eduards
Sent: Thursday, 23 May 2024 3:38 PM
To: heavyvehicle@uglregionallinx.com.au <heavyvehicle@uglregionallinx.com.au>
Subject: Advice on level rail crossings

Hi,

I'm working on a traffic impact assessment for a proposed solar farm near Bathurst. We are aware of some oversize and overmass (OSOM) components required at the site that will need to be transported from Port Botany, over one of your assets. Details are: Blayney on the Main West Line LXM ID 664.

I'm just requesting high level advice at this stage, realising there's an application process for permits to happen in due course. What are some of the guidelines or criteria for having a rail officer on site during the OSOM crossing? We are predicting

the load to be up to 50 metres long, 4.6m high, and obviously quite heavy. We would like to include some of this preliminary information in the report that will be submitted with the DA.

Thank you for your help.

Regards

Shannon Eduards

BE (Hons) Civil

Traffic Engineer

Ph: +61 434 378 886

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Appendix J

TfNSW Bridge and Culvert Assessment

From: Tobias Shannon
To: Rico Kobelt; special_permits_unit@rms.nsw.gov.au
Cc: Oliver Mihaila
Subject: RE: Request: Bridge and Culvert Assessment (SSD-64834490)
Date: Thursday, 4 September 2025 1:24:58 PM
Attachments: image003.png
image004.png
image005.png
image006.png
image007.png

Hi Rico,

Please be advised that this proposed combination will not require a TfNSW Bridge assessment as it is approved under our HLP map.

There is however third party structures along the route that will require approval.

Kind Regards

Tobias Shannon
A/ Manager Road Access
Freight Branch
Planning, Integration and Passenger

Transport for NSW

T 1300 656 371 **E** tobias.shannon@transport.nsw.gov.au

transport.nsw.gov.au

Cnr Grey & Ferguson St
Glen Innes NSW 2370

NSW GOVERNMENT Transport for NSW

I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

From: Rico Kobelt <rkobelt@amberorg.com.au>

Sent: Wednesday, 27 August 2025 3:26 PM
To: special_permits_unit@rms.nsw.gov.au <spu@transport.nsw.gov.au>; Tobias Shannon <Tobias.SHANNON@transport.nsw.gov.au>
Cc: Oliver Mihaila <omihaila@amberorg.com.au>
Subject: RE: Request: Bridge and Culvert Assessment (SSD-64834490)

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi there,

Are we able to please get a reference number or acknowledgement of the bridge assessment request below?

Kind regards,

Rico Kobelt
BE (Hons) BSc
Traffic Engineer

Ph: +61 431 099 588

From: Rico Kobelt
Sent: Monday, 28 July 2025 2:24 PM
To: special_permits_unit@rms.nsw.gov.au <spu@transport.nsw.gov.au>; Tobias Shannon <tobias.shannon@transport.nsw.gov.au>
Cc: Oliver Mihaila <omihaila@amberorg.com.au>
Subject: Request: Bridge and Culvert Assessment (SSD-64834490)

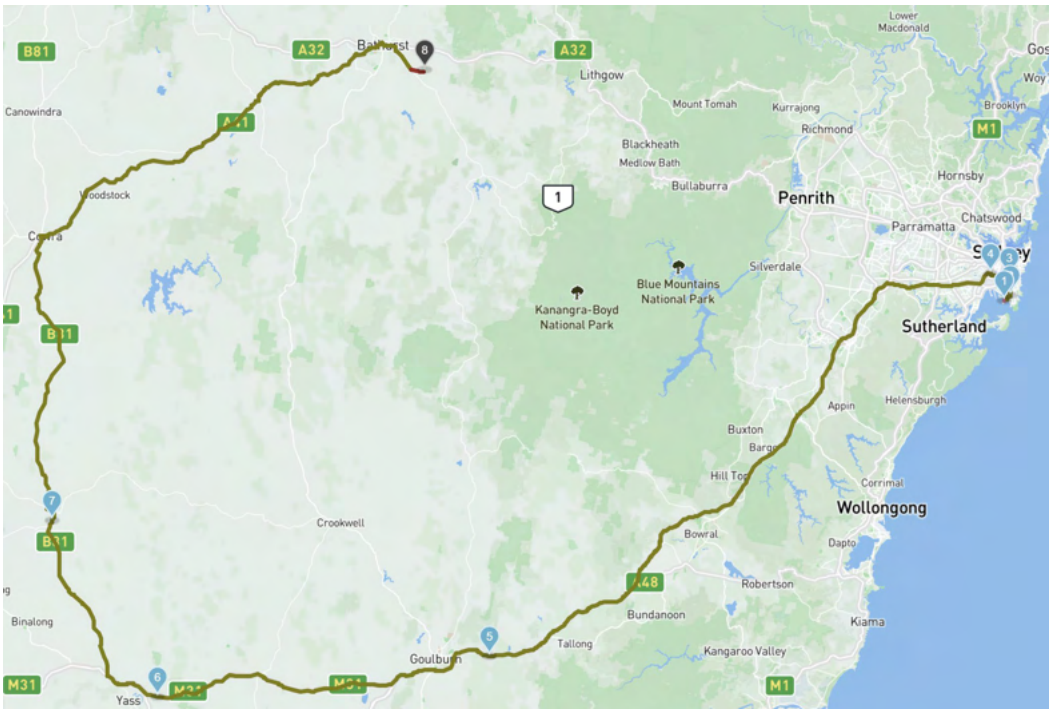
Hi there,

Amber are assisting with the preparation of a Traffic Impact Assessment report for the Brewongle Solar Farm (refer: https://www.planningportal.nsw.gov.au/major-projects/projects/brewongle-solar-farm-0)

We have been requested by the TfNSW Development Renewables team to seek a bridge and culvert assessment of the anticipated OSOM vehicle combinations transporting the transformer from port (Port Botany) to site, on behalf of Edify Energy (we will forward the fees onto them).

The proposed vehicle combination is shown attached with relevant details provided, including the NHVR Route ID (**2NDE3-2 v1**). Note these are relatively approximate given that the project is yet to be approved and loads and transit time to be confirmed.

The route should look like this:



Please feel free to contact me if any further information is required.

Kind regards,

Rico Kobelt
BE (Hons) BSc
Traffic Engineer

Ph: +61 431 099 588

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